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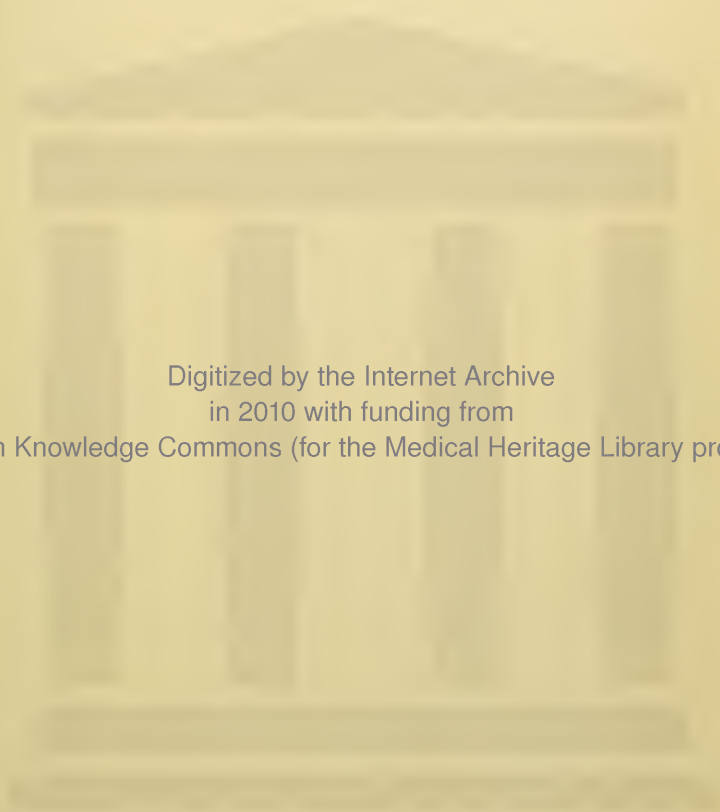
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U.S. Public Health Service.
Annual report of the surgeon general

M. T. P.



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1781/81

OPERATIONS
OF
THE UNITED STATES MARINE-HOSPITAL SERVICE:
1881.

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REPORT.

SIR: I have the honor to submit the following report of the operations of this Service for the fiscal year ended June 30, 1881:

RELIEF FURNISHED.

During the year, 32,613 patients received relief from this Service, of whom 12,449 were treated in the hospitals and 20,164 at the different dispensaries; 309,596 days' relief in hospital were furnished; 194 trusses, 17 elastic stockings, 11 knee-caps, 7 pairs crutches, and other appliances, have been issued to outgoing patients. Transportation to their homes has been furnished to 17 incurable patients.

The number of seamen treated shows an increase of 7,753 over last year.

In addition to the relief furnished, as shown above, 44 officers, cadets, and applicants for appointment as cadets, and 305 seamen in the Revenue-Marine Service have been examined, 4,384 pilots have been examined for color-blindness, and 57 seamen for light-house and merchant service.

HAND-BOOK FOR SHIP'S MEDICINE-CHESTS.

In further carrying out the intentions of Congress in establishing the Service, an attempt has been made, in providing a hand-book for the medicine-chest, to furnish a guide in aid of masters and officers of vessels when far at sea, beyond the reach of skilled assistance. Section 4569 of the Revised Statutes compels the carrying of a medicine-chest, but no specifications were given as to what the contents of the chest should be, and, as a consequence, there are scarcely any two chests alike, or even provided with proper medicines. In this book lists are given of what the chests should contain, with plain directions for their use. It will be issued to all vessels now required by law to keep a medicine-chest.

RECEIPTS AND EXPENDITURES.

The receipts from all sources were \$386,059.81, and the net expenditures \$400,404.46. It is believed that the receipts will be largely increased during the present fiscal year, as a result of the special investigations now in progress.

Notwithstanding the great increase in the number of patients, the expenditures are not greater than last year, and the *per capita* cost has been still further reduced from \$16.18, as reported in the last report, to \$12.27. This is due principally to the large increase in the number of out-patients.

MEDICAL CORPS.

Appointments.

Two examining-boards have been convened during the year.

There were thirty applications for appointment; eighteen candidates appeared for examination; two passed, and were appointed assistant surgeons, taking rank in the order of merit. Two candidates, having passed the examination just previous to the present fiscal year, were appointed assistant surgeons. There are now four vacancies.

Promotions.

One passed assistant surgeon was promoted to be a surgeon, to fill a vacancy, and three assistant surgeons were promoted to be passed assistant surgeons, having served the three years required by the Regulations and passed a satisfactory professional examination.

Casualties.

Since the last report, one surgeon and one passed assistant surgeon have resigned, one assistant surgeon was dismissed after a hearing before a board of inquiry, and one assistant surgeon (W. C. W. Glazier) died of yellow fever at the Marine Hospital, Key West, Fla.

COLLECTION OF HOSPITAL-DUES.

The action of the Department, in determining the impossibility of carrying out the schedule plan for the collection of hospital-dues, has met with the general approval of those concerned. In almost all countries hospital-dues of some sort are collected. In many foreign ports an assessment, according to the registered tonnage of the vessel, is levied on all shipping as hospital-money, but in this country the taxation being paid by the beneficiaries of the Service, its equitable nature is apparent, and as payment is made for the time of actual employment, there is no hardship from its collection. Notwithstanding this fact, it has been brought to the attention of this office that the owners and masters of many vessels were in the habit of defrauding the Service out of considerable amounts. This was done by neglect to furnish the names of all the members of the crew to the customs officers. In one

instance, while the owners properly accounted for the crew, the "broker, who was intrusted with the settlement of the account at the custom-house, retained more than one-half the money.

A cursory examination having shown the necessity of a thorough investigation into these frauds, a special inspector of customs was, upon the request of this office, assigned to that duty by the Supervising Special Agent of the Treasury. The investigation is still in progress with satisfactory results, several thousand dollars having been collected that would otherwise have been lost to the fund. The imperative necessity for the permanent employment of an officer for the regular inspection of seamen's time-books, and examination of returns of hospital-dues, made to customs officers, has become apparent. Indeed, frauds can be prevented in no other way so surely and certainly. It is, therefore, recommended that the attention of Congress be invited to this point.

FRAUDULENT ADMISSIONS TO HOSPITAL.

The furnishing of hospital or dispensary relief to persons not sailors occasionally happens, notwithstanding the great care exercised by the medical officers at the several stations to exclude those not entitled to the benefits of the Service. The only statute under which such persons are punished is the general one providing a penalty for frauds against the Government. (Sec. 5438.) Two convictions have been made, and other cases are pending. In both these instances the discharge papers of a sailor had been purchased. As in all cases where the medical officer is in doubt as to whether or not the applicant is a seaman, he is instructed, in the interest of humanity, to admit such applicant, it is only reasonable that a severe penalty should be enforced against persons taking advantage of this necessary regulation. It is further suggested that fines collected as penalties from convictions of those defrauding this Service be covered into the marine-hospital fund, as is now done with the proceeds of fines collected under the provisions of section 2 of the act of March 3, 1875.

HOSPITAL BUILDINGS.

The ordinary repairs to the hospital buildings and grounds have been made as usual under the direction of the Supervising Architect of the Treasury Department, and under the immediate supervision of the superintendents of construction acting under his direction. The extraordinary repairs estimated for, as necessary last year, were not appropriated for by Congress. The committee by whom the subject

was considered arrived at the conclusion that the unexpended balance having been acquired by reason of the sale of hospital buildings, its expenditure for repairing those retained by the Government was a legitimate one, and that it could properly be done before asking Congress for additional appropriations for this purpose. With this view, plans and specifications have been prepared for repairing each of the hospitals enumerated in the last report, and the work will be entered upon during the coming summer.

A summary of the work done at the several hospitals is as follows:

Hospital at Chelsea.

A few minor repairs have been made on this building during the past year, involving an expenditure of \$44. The estimate for extraordinary repairs given in the report of last year as necessary, will be commenced during the current fiscal year. According to the report of the surgeon-in-charge, the engineer of this hospital died, as a consequence of the leaking and defective drain under the hospital. The sewer was originally of brick, cemented on the inside. It was laid in 1858, and has been in constant use. A new one is now being constructed.

Hospital at Chicago.

The ordinary repairs to the plumbing and heating apparatus have been made during the past year, but the plumbing is dangerously defective and the heating apparatus is worn out. A new dumb-waiter has been placed in the building at a cost of \$175. The general repairs to the building, enumerated in the report of last year, and the change in the sewerage of the hospital, remain to be completed; the estimate for the work is \$18,900, plans for which have been prepared. The steam-boilers being worn out, require replacing. This building is more expensive, and on account of its general plan, the annual expense of its management is greater than any other hospital in the Service. The plan for these repairs also includes such alterations as will render the administration more economical. It was found that the amount of money estimated for was insufficient to pay the expense of grading and turfing the grounds, or to construct the bulkhead necessary to prevent the encroachment of the lake.

Hospital at Detroit.

The iron roof has been repaired and painted, a new flag-staff erected in lieu of one destroyed by lightning, the kitchen floor repaired, the ceiling and piazza repaired and painted, the plastering of the corridors

repaired, and the wards and ceilings of the wards painted at an expenditure of \$800. The necessary repairs to this hospital require an expenditure of \$3,500.

Hospital at Key West.

Minor repairs have been made to the roof of this hospital, and certain parts of the building have been repainted at an expenditure of \$220, and a new flag-staff erected. The \$1,000 appropriated by Congress for building the sea-wall or bulkhead in front of the marine-hospital building has been expended, but there are still extensive repairs necessary. At least \$4,000 to complete the bulkhead for the proper protection of the hospital building, and \$4,000 for needed repairs to the hospital building, are necessary.

Hospital at Louisville.

Minor repairs to the plumbing of the hospital have been made, involving an expenditure of \$83.65. The estimate for the necessary repairs to this building remains as heretofore, \$5,787.65. The wall around the grounds is out of repair, and needs pointing throughout.

Hospital at Mobile.

There have been no repairs to this hospital during the past year. The estimate for necessary repairs remains as last year, \$1,515. The work has been estimated for and will be speedily completed.

Hospital at New Orleans.

The condition of the old unfinished hospital at New Orleans and the great necessity for a hospital at that port were fully set forth in a report transmitted to Congress by your predecessor, and the building, after extensive advertising, was offered for sale at public auction. There was but one bid for the property, and that so far below its real value that the Secretary rejected the bid.

Hospital at Portland, Maine.

The roof of this building has been repaired at an expense of \$184.10. Repairs to the heating apparatus and plumbing have been made.

Hospital at Pittsburgh.

As heretofore reported, \$7,000 is available for the building at Pittsburgh, and plans were prepared by the Supervising Architect, at the request of this office, for the erection of a cottage hospital at that

port; but it was discovered that the State of Pennsylvania had not ceded the jurisdiction required by section 355, Revised Statutes, and an application was necessary to be made to the Governor for that purpose. The State having recently ceded the jurisdiction by a special act of the Legislature, the erection of the building will be commenced as soon as practicable.

Hospital at San Francisco.

Minor repairs to the steam-heating pipes have been made at an expenditure of \$55. Authority has been given for the construction of a fence to enclose the hospital reservation.

Hospital at St. Louis.

The water-closets of this hospital have been repaired at an expenditure of \$331, and minor repairs have been made involving an expenditure of \$150. The repairs estimated for last year are now in progress, and will probably be completed before winter.

Hospital at Wilmington, N. C.

This building, having undergone extensive repairs, was open for the reception of patients May 18, and the seamen of this Service who had been treated at the hospital of the Seaman's Friend Society were transferred to the marine hospital. The building is now in excellent condition; the fences, however, were all destroyed during the time it was out of the possession of the Government, and require rebuilding. As this is the general hospital for a large portion of the South Atlantic coast, the number of patients is steadily increasing, and an additional ward and store-room should be constructed; \$5,000 are considered as necessary for the work.

LEGISLATION NEEDED.

The recommendations heretofore made for providing hospitals at New York, Baltimore, New Orleans, Cincinnati, Cairo, Vicksburgh, Norfolk, Galveston, Savannah, and Port Townsend are respectfully renewed; and attention is once more invited to the propriety of statutory provision for the appointment of medical officers; compulsory physical examination of seamen; the establishment of a National Snug Harbor; also some enactment relative to the sale of unclaimed effects of deceased seamen; specific penalty for defrauding the Service; and the old law providing for investing surplus funds ought certainly to be re-enacted.

PHYSICAL EXAMINATION OF SEAMEN.

In previous reports the regular shipment of a great number of unseaworthy sailors has been mentioned, so often, in fact, as to almost render the subject threadbare; but while the evil exists, it is presumed that the legal remedy is not beyond reach, or its ultimate application altogether hopeless. Year by year the records of the shipment of incurable syphilitics, chronic invalids, and even lunatics, accumulate; and this only represents the indirect damage to shipping, the actual damage being obscured by causes apparently more immediate. When a vessel is reported as being lost at sea, the not uncommon fact that at the onset of the storm one-third of the crew were unfit for duty, from sickness or old injuries, escapes notice or remark. Thousands of dollars are properly expended, through the Life-Saving Service, in saving the lives of persons engaged in commerce with the United States, but we have as yet no public provision looking to the prevention of disasters to sailing craft from weak and inefficient crews; and this notwithstanding the fact that no specific appropriation is required to carry out the necessary regulation. As stated in my last annual report, the "blood-money" takers are really responsible for the non-acceptance of the facilities offered by this Service for the physical examination of crews as preliminary to shipment.^a There has been, however, a great awakening of public opinion in connection with this matter. The burning fact that crews are openly sold like cattle in our great seaports has stimulated renewed inquiry, and a short time since the United States district attorney for the southern district of New York brought up one of the cases for trial under the provisions of section 4609 of the Revised Statutes, but it was shown upon the trial that the accused had sold the crew to a foreign vessel instead of to an American vessel, and the judge decided in favor of the accused, on the ground that there was no evidence that Congress intended to prohibit the traffic as far as foreign vessels were concerned. The effect of this decision is to enable the blood-money men to control the sailor market, and if eventually prohibited from plying their trade on American crews, they may still monopolize that of foreign vessels, and prevent the employment of American sailors on foreign craft in our ports. It is not difficult to see that the source of this evil lies in the advance-wages system. Refuse advance wages, and there will be no incentive to deprive the sailor of his hard-earned stipend.

^a The U. S. Shipping Commissioner at the port of New York publishes monthly the number of persons shipped through his office, and each time adds, "There were no masters of outgoing vessels that availed themselves of the facilities offered by the Government for the free physical examination of seamen during the month."

Repeated but unavailing efforts have been made for the abolition of advance wages both by statutory enactment and by private voluntary agreement. The New York Chamber of Commerce, in 1857, took action on this subject, and one hundred and seven firms signed an agreement that "on and after the 1st day of July, 1857, they will not pay advance wages to seamen. They also declare that they will add to the monthly pay of sailors 10 per cent. to the men who return in the ships they go out in."^a This movement was unsuccessful on account of a combination of sailor landlords and shipping agents. They would not and did not permit the men to go to sea, although large numbers of vessels were then in port waiting to sail. Fifty at least lay at the wharves or in the stream in that condition, unable to leave the port for want of crews, which could not be obtained, and so remained for from three to five days. Only one or two of them were successful in obtaining men, and in sailing without paying advance.^b

The following graphic description of a settlement between a sailor and his landlord is copied from the article already quoted. No more forcible illustration can be furnished of this side of the question:

It is not many weeks since a friend of mine in Boston had a ship going to sea at three o'clock on a certain day. He went to his shipping-master, Mr. Miller, and said: "Miller, my ship is going to sea at three o'clock; I want my crew on board at two." "Very well, sir," Mr. Miller says; "your crew are all down at old Green's—(I will call him Green, but his name is *not* Green)—a negro boarding-house keeper; there will be some sport down there; suppose you go down and see how the old fellow manages." My friend went. The shipping-master said to Green, "The crew of the ——— must be on board at two o'clock; will you have them there?" "Yes, sir, sartain," and he looks over the crew. They were nearly all sitting in the room. "Now," he says, "boys, we must settle, and you be on board the ship at two o'clock. Come here, Jim," says he, "we'll begin with you," and calls him into a side-room. My friend and the shipping-master went in, too. "Now, Jim," he says, "you have been in my house two weeks." "Two weeks! No, sir; I aint been in your house but five days." "Jim, don't you suppose I know? Do you forget I am in my own house? You have been in my house two weeks." "But, Mr. Green, I say I haven't been here but five days." "Why, don't you suppose I know; I who buy the bread and butter and the meat; hadn't I ought to know better than you who have been drunk half the time?" "Well, sir, if you *say* so, I suppose it must be so; but I thought I hadn't been here but five days." "Now, then, Jim, there's the old woman's wash-bill; that's \$2.50." "Two dollars and a half! Why, Mr. Green, I had only two pieces of clothing when I came here, and one of them the old woman said was so old that she threw it away." "*You only had two pieces when you came here; you came to MY house with only two pieces of clothing! You get off cheap with two dollars and a half, cheap enough. A man like you to come to my house! Now, Jim, don't you remember down at the door there was a white man talking to you, and you wanted three dollars? There was three dollars cash.*" "Yes, sir, I wanted three dollars, but *I didn't get it.* I asked you for it, and you didn't give it to me." "Now, Jim, don't you suppose I know best whether you got the money or not? I gave you the money out of my pocket—money I had earned hard, and you fooled it away. Don't you suppose I know best? Do you suppose I would take advantage of you? You have known me a great many years, Jim." "No, sir; I don't suppose you would." "*I tell you, Jim, you had it, and I know best. Now, Jim, there is \$12 for board, and \$2.50 for washing, that is \$17.50, and there is \$3 cash, making \$22, Jim. Now your advance only comes to \$20. Where am I going to get the other two dol-*

^a Editorial in the "Sailors' Magazine," April, 1881.

^b "Sailors' Magazine," *Loc. Cit.*

lars—where is *that* coming from?" "Mr. Green, you know when I come back, I will come here." "Oh, yes, Jim, you will come here because I'll *bring* you. I have to look out for you, or you would fall into the hands of the land-sharks, and they would rob you of everything you have." "Well, Mr. Green, when I *do* come, and when I have some money, I will pay you." "That is all very well, Jim. You will pay me when you have some money, but the fact is you never *have* any. But, never mind, Jim, you may go, and I ain't a going to send you off destitute neither. I'll give you something in the bottle, and some tobacco; and if you cheat me then out of my two dollars, that is your fault." You may laugh—but Jim didn't laugh, when for a whole month he had to work night and day, storm and sunshine, to make that twenty dollars again, that he had been cheated out of. These are not rare or over-drawn cases, but such as occur daily in our seaports.

The blood-money practices are said to be as prevalent now as they were prior to the enactment of the shipping-commissioners' law of 1872. The shipping commissioners, in fact, ship only such men as appear before them for the purpose, and they are brought under the surveillance of landlords to whom the advance wages of the sailor have been previously assigned.^a

Dr. Alexander Jamieson, in his report on the health of Shanghai for the half year ended September 30, 1876, says—(Chinese Customs Medical Reports:)

"It will be noticed that non-residents contribute largely to the mortality of the port. Most of the fatal cases among this class pass through the General Hospital, and the majority of these are seamen, sent from ships in the harbor. It is nothing uncommon to find in the wards men, fresh from European and American ports, who are yet suffering from advanced heart disease, aortic aneurism, or chronic kidney disease, or are in the last stage of phthisis. To take men on board ship for a long voyage, wherein they are certain to be exposed to all the conditions most fatal to persons in their situation, is absolutely inexcusable; but it is not easy to say where the blame lies. Medical inspection before shipping is clearly the only way of meeting the difficulty, and, accordingly, the framers of the merchant shipping bill of 1876 took the matter in hand, but without result. The twenty-fifth section of the bill, as it originally stood, recited that every owner or master, signifying at a shipping office his intention to engage a crew, should, at the same time, state whether he intended to have his men examined by a medical inspector of seamen. In case he declined to do so, and any one of his crew was left behind sick at any place out of the United Kingdom, the owner or master would have been made responsible for all sums paid on account of such seaman by British consuls for medical expenses and expenditure for subsistence, clothing, conveyance home, and burial, should the man die before reaching home. In committee, this section was expunged, but a distinct promise was made that next session a Government measure would be introduced relating exclusively to the condition of seamen. What action, if any, other Governments have taken, or are about to take, I do not know, but the adoption of the plan of inspection would abolish a vast amount of needless suffering on the part of individual seamen, and of needless danger to life and property which now arises from the employment of inefficient crews."

^aSee "Maritime Register," N. Y., July 13, 1861; "Nautical Gazette," May 10, 24, and 31, 1879, and various articles in Vols. XI and XII of same journal.

The published records of the Life-Saving Service show that during the year ended June 30, 1880, the number of collisions were as follows:

All nationalities—

Atlantic and Gulf coasts.....	425
Pacific coast.....	46
Great Lakes.....	182
Rivers.....	63
At sea or in foreign waters.....	58
Total.....	<u>774</u>

Of these, 58 were American vessels; and the causes are thus classified: Bad management, 4; carelessness, 4; darkness, 2; "fault of other vessel," 20; fog, 6; high winds, 4; negligence, 2; want of proper lights, 8; unknown, 8.

It is quite probable that defective vision alone will account satisfactorily for a large proportion of those cases where the collision is alleged to have been the "fault of the other vessel."

The Steamboat-Inspection Service is working in harmony with this Service in endeavoring to prevent accidents from the employment of color-blind persons, but there is no way of extending these examinations to sailing-craft except by statutory enactment. A test for determining the acuteness of vision is quite as important as that for color-blindness, but has not been authorized by the Department, except in the case of candidates for appointment as cadets in the Revenue-Marine Service and seamen desiring to enlist in that Service.

The following report to the Supervising Inspector-General of Steam-Vessels, relative to the loss of the steamer "City of Austin" on the Florida coast, shows color-blindness of the pilot to have been the cause of the accident:

OFFICE OF U. S. LOCAL INSPECTORS OF STEAM-VESSELS,
Savannah, Ga., June 6, 1881.

SIR: In accordance with your letter of instructions of May 7, 1881, requesting the local inspectors at Savannah to inquire into the cause of the loss of the steamer "City of Austin" at Fernandina, April 24, 1881, at 4.15 P. M., we have to report: It appears from the statement of J. W. Howell, collector of customs at Fernandina, that the steamer "City of Austin" was sailing under register, and was in charge of State Pilot George Cribb, licensed at St. Mary's, Ga., on the 26th day of March, 1879.

The loss of the steamer was caused by the pilot mistaking the color of the buoys that mark out the channel.

Dr. J. H. Pope, of Fernandina, was consulted by Mr. Cribb some months ago on account of his sight, and advised him to consult Dr. Chisholm, of Baltimore, which he did. The Doctors are of opinion that

his eyes are affected from excessive use of tobacco. We examined him for color-blindness in presence of the chairman and secretary of the board of pilot commissioners at St. Mary's, and find that, at a distance of six feet, he is not able to distinguish one color from another.

The master, E. C. Sterns, estimates the loss of the steamer at \$100,000, and the cargo at the same amount. The vessel will prove a total loss.

Very respectfully,

JONES AND HEADMAN,
Local Inspectors.

Hon. JAMES A. DUMONT,
Supervising Inspector-General, Washington, D. C.

DONATIONS AND INVESTMENTS.

Under the existing law the President is authorized to receive donations of real or personal property; and although this enactment was approved nearly a century ago, there has never been any donation of real estate, nor any attempt to create an interest-bearing fund, until last year, when the recommendation was made that \$150,000 of the unexpended balance be invested in United States bonds, the interest to be covered into the fund, and to make the same disposition of any surplus that might accrue from year to year. This recommendation was based upon the old law of 1798, which authorized the conversion of surplus funds into stock of the United States, but, upon investigation, it was decided that section 4 of the law referred to was repealed by the operation of section 5596 of the Revised Statutes. This disposition of the surplus could, therefore, only be made under the general provision of law placing the management of the fund under the direction of the Secretary, and that officer declined to take the action recommended, except by authority from or direction of Congress. The desirability of some such provision by Congress needs no argument to commend it. Were the Service once endowed with a sufficient permanent interest-bearing investment, the hospital-tax might be materially reduced. During the current year a handsome donation of trees and shrubbery has been made to the marine hospital at San Francisco by the park commissioners of that city. The Maryland Hospital Relief Association has sent about one hundred and fifty articles of clothing to be distributed among the destitute and needy seamen in hospital at Baltimore, and has at various times made contributions of newspapers and periodicals. The Pennsylvania Seaman's Friend Society kindly furnished the hospital-steamer "John M. Woodworth," plying in New York Harbor, with a library of forty-eight volumes, and several kind-hearted people have at various times sent, through the editor of the "Nautical Gazette," newspapers and periodicals to the sick sailors in

hospital at Bedloe's Island. The hospital library at Chelsea now contains about five hundred volumes, donated at various times during the last twenty years. The Commissioner of Agriculture has supplied several of the hospitals with garden-seeds.

PURVEYING DIVISION.

In addition to supplying the various hospitals and relief-stations with medicines, hospital stores, books, instruments, and surgical appliances, it has been found advantageous to furnish, from this depot, beds, bedsteads, blankets, linen, towelling, mosquito-netting, and articles of hospital furniture, also non-perishable commissary supplies, instead of purchasing these articles at the stations. The number of relief-stations furnished with supplies now number fifty-seven; of these, Wilmington, N. C., (where a marine hospital was opened in May last,) has received a complete outfit; and the dispensaries at Pensacola, Fla., and at Bangor, Maine, having been destroyed by fire, were replenished. New dispensaries have been opened at Memphis, Vicksburgh, and at Elizabeth City, N. C. The hospitals are now better furnished than at any previous period in the history of the Service. Medical supplies have also been furnished vessels of the revenue-cutter service at cost price.

The number of requisitions filed was 333, and the number of shipments made 287.

Property returns from the various hospitals and relief-stations have been compared with the books of this office, where a complete record of all supplies received at the depot and issued to the various ports is kept.

DETAILS OF THE ARRANGEMENTS FOR THE CARE OF SEAMEN.

(Approved June 22, 1881.)

The following arrangements for the care of seamen entitled to relief from this Service have been made for the fiscal year ending June 30, 1882. The right is reserved to terminate any "arrangement" whenever the interests of the Service require it:

Albany, N. Y.—The medical attendance to be furnished by an acting assistant surgeon; the Albany Hospital to furnish board, nursing, and medicines, at \$1 per day.

Apalachicola, Fla.—Dr. M. T. Alexander to furnish medical attendance and medicines to hospital patients, and medicines to out-patients, at \$35 per month, and to receive \$1 for the examination of each out-patient. Martha Campbell to furnish board and nursing, at 75 cents per day.

Astoria, Oregon.—St. Mary's Hospital to furnish medical attendance, medicines, board, and nursing, at \$1 per day.

Baltimore, Md.—The medical attendance to be furnished by a medical officer of the Marine-Hospital Service; St. Joseph's Hospital to furnish board, nursing, and medicines, at 70 cents per day, and to furnish transportation for patients from any part of the city to the hospital, when required, at \$1 for each seaman so transported. Patrick Mullen to provide for the burial of deceased patients, at \$7 each.

Bangor, Maine.—The medical attendance to be furnished by an acting assistant surgeon; John E. Varney to furnish board and nursing, at 64 $\frac{2}{7}$ cents per day.

Barnstable, Mass., and Sub-ports.—Medical attendance and medicines to be furnished at South Dennis, by Dr. George N. Munsell, at \$84 per month; at Hyannis, by Dr. George W. Doane, at \$67 per month; at Provincetown, by Dr. J. M. Crocker, at \$12.50 per month; at Wellfleet, by Dr. William N. Stone, at \$12.50 per month; at Barnstable, by Dr. M. Smith, at \$12.50 per month. Seamen applying for relief at Wood's Holl will be sent to the marine hospital at Vineyard Haven. Relief at Chatham to be furnished on the recommendation of the collector of customs.

Bath, Maine.—The medical attendance to be furnished by an acting assistant surgeon; Joseph Soiett to furnish board and nursing, at 85 cents per day. John M. Clarke to provide for the burial of deceased patients, at \$14 each. Cases requiring long-continued treatment will be furnished transportation to the United States Marine Hospital at Portland, Maine.

Belfast, Maine.—The medical attendance to be furnished by an acting assistant surgeon; Joseph Sanborn to furnish board and nursing, at \$1 per day; A. B. Matthews to provide for the burial of deceased patients, at \$15 each.

Bismarck, D. T.—Dr. H. R. Porter to furnish medical attendance, medicines, board, and nursing, at \$1.40 per day; Owen Farley to provide for the burial of deceased patients, at \$11 each.

Boston, Mass.—Patients cared for in the United States Marine Hospital at Chelsea, Mass.; burial of deceased patients at the hospital cemetery; burial of foreign patients, at \$6 each.

Buffalo, N. Y.—The medical attendance to be furnished by a medical officer of the Marine-Hospital Service; out-patients to be treated at the Marine-Hospital Office, No. 53 East Seneca street; the Buffalo Hospital to furnish board, nursing, and medicines, at 57 cents per day, and to provide for the burial of deceased patients, at \$6 each.

Burlington, Vt.—The Mary Fletcher Hospital to furnish medical attendance, medicines, board, and nursing, at \$1 per day.

Cairo, Ill.—The medical attendance to be furnished by a medical officer of the Marine-Hospital Service; St. Mary's Infirmary to furnish board, nursing, and medicines, at 83 cents per day, and to provide for the burial of deceased patients, at \$9 each.

Cedar Keys, Fla.—Dr. Robert T. H. Thomas to furnish medical attendance and medicines, at \$25 per month; E. E. Leavitt to furnish board and nursing, at \$1 per day.

Charleston, S. C.—The medical attendance to be furnished by a medical officer of the Marine-Hospital Service; the City Hospital to furnish board, nursing, and medicines, at 80 cents per day, and to provide for the burial of deceased patients, at \$6 each. Cases requiring long-continued treatment will be furnished transportation to the United States Marine Hospital at Wilmington, N. C.

Chattanooga, Tenn.—The medical attendance to be furnished by an acting assistant surgeon; Morgan Fryer to furnish board and nursing, at 50 cents per day.

Crisfield, Md.—Drs. Atkinson and Bowen to furnish medical attendance, medicines, board, and nursing, for hospital patients unable to bear transportation to Baltimore, at \$1 per day.

Chicago, Ill.—Patients cared for in the United States Marine Hospital; Wm. Niemeyer to provide for the burial of deceased patients, at \$18 each.

Cincinnati, Ohio.—Out-patients to be treated at the Marine-Hospital Office, corner Third and Broadway, by a medical officer of the Marine-Hospital Service. Patients requiring hospital treatment and able to bear transportation, will be sent to the United States Marine Hospital at Louisville, Ky. The Cincinnati Hospital to furnish medical attendance, medicines, board, and nursing, at \$1 per day, for patients unable to bear transportation. For contagious cases, \$1.50 per day will be allowed.

Cleveland, Ohio.—The medical attendance to be furnished by an acting assistant surgeon; the Cleveland City Hospital to furnish board, nursing, and medicines, in the United States Marine Hospital, under lease of September 21, 1875, at 64 cents per day.

Detroit, Mich.—Patients cared for in the United States Marine Hospital; out-patients to be treated at the Marine-Hospital Office, Tribune building; Latimer & Patterson to provide for the burial of deceased patients, at \$11 each.

Dubuque, Iowa.—The medical attendance to be furnished by an acting assistant surgeon; St. Joseph's Hospital to furnish board, nursing, and medicines, at 86 cents per day.

Duluth, Minn.—Dr. S. C. McCormick to furnish medical attendance, medicines, board, and nursing, at \$1.50 per day.

Eastport, Maine.—Hospital relief to be furnished on the recommendation of the collector of customs.

Edenton, N. C.—Cases requiring long-continued treatment will be furnished transportation to the United States Marine Hospital at Wilmington, N. C.

Edgartown, Mass.—Patients cared for in the United States Marine Hospital at Vineyard Haven. Patients from vessels bound west or south touching at Hyannis will be sent to this hospital, and patients at New Bedford requiring long-continued treatment will also be furnished transportation to this point.

Elizabeth City, N. C.—The medical attendance to be furnished by an acting assistant surgeon; 65 cents per day allowed for board and nursing. Cases requiring long-continued treatment to be furnished transportation to United States Marine Hospital at Wilmington, N. C.

Ellsworth, Maine.—The medical attendance to be furnished by an acting assistant surgeon. Emergency cases only will be furnished continuous hospital treatment; all other cases requiring hospital treatment will be furnished transportation to the United States Marine Hospital at Portland, Maine.

Erie, Pa.—The medical attendance to be furnished by an acting assistant surgeon; Hamot Hospital to furnish board and nursing, at 71 cents per day; the Erie Undertaking Company to provide for the burial of deceased patients, at \$12 each. Cases requiring long-continued treatment to be sent to Detroit, Mich.

Evansville, Ind.—The medical attendance to be furnished by a medical officer of the Marine-Hospital Service; St. Mary's Hospital to furnish board, nursing, and medicines, at 75 cents per day; Robert Smith to provide for the burial of deceased patients, at \$12 each.

Fernandina, Fla.—The medical attendance to be furnished by an acting assistant surgeon; board and nursing to be furnished on recommendation of the collector of customs.

Galveston, Texas.—The medical attendance to be furnished by a medical officer of the Marine-Hospital Service; St. Mary's Infirmary to furnish board, nursing, and medicines, at 80 cents per day, and to provide for the burial of deceased patients, at \$10 each. Cases requiring

long-continued treatment will be furnished transportation to the United States Marine Hospital at Mobile upon special authorization from the Department.

Georgetown, D. C.—The medical attendance to be furnished by a medical officer of the Marine-Hospital Service; out-patients to be treated at 1421 G street, Washington; the Providence Hospital, Washington, to furnish board, nursing, and medicines, at 71 cents per day, and to provide for the burial of deceased patients, at \$6 each.

Jacksonville, Fla.—The medical attendance to be furnished by an acting assistant surgeon; the County Hospital to furnish board and nursing, at 75 cents per day.

Key West, Fla.—Patients cared for in the United States Marine Hospital; allowance for the burial of deceased patients, \$15 each.

La Crosse, Wis.—The medical attendance to be furnished by an acting assistant surgeon; Louis Renner to furnish board and nursing, at 50 cents per day.

Louisville, Ky.—Patients cared for in the United States Marine Hospital; out-patients treated at No. 365 West Jefferson street; W. Wyatt to provide for the burial of deceased patients, at \$8 each. For contagious cases, \$2 per day will be allowed.

Machias, Maine.—The medical attendance to be furnished by an acting assistant surgeon; Amos Boynton to furnish board and nursing, at 71 $\frac{3}{4}$ cents per day.

Marquette, Mich.—The medical attendance to be furnished by an acting assistant surgeon; Henry Topke to furnish board and nursing, at \$1 per day.

Memphis, Tenn.—The medical attendance to be furnished by a medical officer of the Marine-Hospital Service; the Memphis City Hospital to furnish board, nursing, and medicines, at \$1 per day, and to provide for the burial of deceased patients, at \$7.50 each, until arrangements are provided, in accordance with an act of Congress establishing a marine hospital, approved May 3, 1880. Out-patients to be treated at No. 7 Madison street.

Middletown, Conn.—The Hartford Hospital to furnish medical attendance, medicines, board, and nursing, at \$1 per day, and to provide for the burial of deceased patients, at \$10 each.

Milwaukee, Wis.—The medical attendance to be furnished by an acting assistant surgeon; out-patients to be treated at No. 437 Milwaukee street; St. Mary's Hospital to furnish board, nursing, and medicines, at 57 cents per day; Fred Zander to provide for the burial of deceased

patients, at \$14 each. Chronic hospital cases to be furnished transportation to the United States Marine Hospital at Chicago, Ill.

Mobile, Ala.—Patients cared for in the United States Marine Hospital.

Nashville, Tenn.—The medical attendance to be furnished by an acting assistant surgeon; the City Hospital to furnish board, nursing, and medicines, at 90 cents per day, and to provide for the burial of deceased patients, at \$6 each.

New Bedford, Mass.—The medical attendance to be furnished by an acting assistant surgeon; St. Joseph's Hospital to furnish board, nursing, and medicines, at \$1 per day, and to provide for the burial of deceased patients, at \$10 each. Cases requiring long-continued treatment will be sent to the United States Marine Hospital at Vineyard Haven.

New Berne, N. C.—The medical attendance to be furnished by an acting assistant surgeon; Mrs. S. A. Wambold to furnish board and nursing, at \$1 per day. Cases requiring long-continued treatment will be furnished transportation to the United States Marine Hospital at Wilmington, N. C.

New Haven, Conn.—The medical attendance to be furnished by an acting assistant surgeon; the New Haven General Hospital to furnish board, nursing, and medicines, at 95 cents per day, and to provide for the burial of deceased patients, at \$8 each.

New London, Conn.—The medical attendance to be furnished by an acting assistant surgeon; board and nursing to be furnished on the recommendation of the collector of customs. Cases requiring long-continued treatment will be furnished transportation to the United States Marine Hospital at New York Harbor.

New Orleans, La.—The medical attendance to be furnished by a medical officer of the Marine-Hospital Service; the Hotel Dieu Hospital to furnish board, nursing, and medicines, at 85 cents per day, (except contagious cases, for which \$2 per day will be allowed,) and to provide for the burial of deceased patients, at \$10 each. Cases requiring long-continued treatment will be furnished transportation to the United States Marine Hospital at Mobile upon the approved recommendation of the medical officer.

Newport, R. I.—The Newport Hospital to furnish medical attendance, medicines, board, and nursing, at 95 cents per day; Langley & Bennett to provide for the burial of deceased patients, at \$12 each. Cases requiring long-continued treatment will be furnished transportation to the United States Marine Hospital, New York Harbor.

New York, N. Y.—Patients cared for in the United States Marine Hospital on Bedloe's Island, New York Harbor; George F. Schaefer, of Staten Island, to provide for the burial of deceased patients, at \$8.75 each. For contagious cases \$2 per day will be allowed.

Norfolk, Va.—The medical attendance to be furnished by a medical officer of the Marine-Hospital Service; St. Vincent's Hospital to furnish board, nursing, and medicines, at \$1 per day; L. C. Salusbury to provide for the burial of deceased patients, at \$8.50 each.

Oswego, N. Y.—The medical attendance to be furnished by an acting assistant surgeon; the Oswego Hospital to furnish board, nursing, and medicines, at \$1 per day.

Pensacola, Fla.—The medical attendance to be furnished by an acting assistant surgeon; the Pensacola Infirmary to furnish board, nursing, and medicines, at 95 cents per day. Cases requiring long-continued treatment will be furnished transportation to Mobile.

Philadelphia, Pa.—The medical attendance to be furnished by a medical officer of the Marine-Hospital Service; the Jefferson Medical College Hospital to furnish board, nursing, and medicines, at 90 cents per day, and to provide for the burial of deceased patients, at \$10 each. Transportation from the Marine-Hospital Office to the hospital to be furnished by the hospital authorities when required.

Pittsburgh, Pa.—The medical attendance to be furnished by a medical officer of the Marine-Hospital Service; out-patients to be treated at corner of Sixth and Smithfield streets; the Pittsburgh Infirmary to furnish board, nursing, and medicines, at 70 cents per day, until such time as the United States Marine Hospital is ready for occupancy, and to provide for the burial of deceased patients, at \$12 each. For contagious cases \$1.40 will be allowed.

Portland, Maine.—Patients cared for in the United States Marine Hospital; Ilsley Brothers to provide for the burial of deceased patients, at \$8 each.

Portland, Oregon.—St. Vincent's Hospital to furnish medical attendance, medicines, board, and nursing, at 78 cents per day.

Port Townsend, W. T.—The medical attendance to be furnished by a medical officer of the Marine-Hospital Service; Dr. Thomas T. Minor to furnish board, nursing, and medicines, at 90 cents per day, and to provide for the burial of deceased patients, at \$12 each.

Providence, R. I.—The Rhode Island Hospital to furnish medical attendance, medicines, board, and nursing, at \$1 per day, and to provide for the burial of deceased patients, at \$12 each. Patients requiring long-continued treatment will be furnished transportation to the United States Marine Hospital at Chelsea, (Port of Boston.)

Richmond, Va.—The medical attendance to be furnished by an acting assistant surgeon; out-patients to be treated at the Marine-Hospital Office, No. 20 North Ninth street; Retreat for the Sick Hospital to furnish board, nursing, and medicines, at 90 cents per day.

Sag Harbor, N. Y.—Dr. George A. Sterling to furnish medical attendance, medicines, board, and nursing, at \$1 per day. Patients will be furnished hospital treatment at Sag Harbor only in emergency cases, unable to bear transportation to the United States Marine Hospital at Bedloe's Island, New York Harbor.

St. Paul, Minn.—The medical attendance to be furnished by an acting assistant surgeon; St. Joseph's Hospital to furnish board, nursing, and medicines, at 70 cents per day, and to provide for the burial of deceased patients, at \$9 each.

Salem, Mass.—Patients will be furnished hospital treatment at Salem only in emergency cases, unable to bear transportation to the United States Marine Hospital at Chelsea, (Port of Boston.)

San Francisco, Cal.—Patients cared for in the United States Marine Hospital. Burial of deceased patients at the hospital cemetery; burial of foreign seamen, \$6 each.

Savannah, Ga.—The medical attendance to be furnished by an acting assistant surgeon; the Savannah Hospital and St. Joseph's Infirmary to furnish board, nursing, and medicines, at 75 cents per day; Joseph Goette to provide for the burial of deceased patients, at \$10 each. Cases requiring long-continued treatment will be furnished transportation to the United States Marine Hospital at Wilmington, N. C.

Shreveport, La.—The Market-Street Infirmary to furnish medical attendance, medicines, board, and nursing, at \$1.50 per day; W. W. Waring to provide for the burial of deceased patients, at \$11 each.

St. Louis, Mo.—Patients cared for in the United States Marine Hospital; the city of St. Louis to provide for the burial of deceased patients, at \$9 each.

Tappahannock, Va., and Sub-port.—Drs. Wm. Fisher and Brodie S. Herndon to furnish medical attendance, medicines, board, and nursing to hospital patients unable to bear transportation, at \$1 per day.

Toledo, Ohio.—The medical attendance to be furnished by an acting assistant surgeon; the St. Vincent's Hospital to furnish board, nursing, and medicines, at 70 cents per day.

Tuckerton, N. J.—The medical attendance to be furnished by an acting assistant surgeon; Elizabeth Jones to furnish board and nursing, at \$1 per day; allowance for the burial of deceased patients, \$6 each.

Vicksburgh, Miss.—The medical attendance to be furnished by an acting assistant surgeon; the City Hospital to furnish board, nursing, and medicines, at 75 cents per day.

Waldoborough, Maine.—The medical attendance to be furnished by an acting assistant surgeon, at Rockland; cases requiring long-continued treatment to be furnished transportation to the United States Marine Hospital at Portland, Maine.

Wheeling, W. Va.—Dr. John Frissel to furnish medical attendance, medicines, board, and nursing, at \$1 per day, (except contagious cases, for which \$2 per day will be allowed.)

Wilmington, N. C.—Patients cared for in the United States Marine Hospital; B. D. Morrill & Son to provide for the burial of deceased patients, at \$10 each.

Wiscasset, Maine, and Sub-ports.—Emergency cases only will be furnished continuous hospital treatment; all other cases requiring hospital treatment will be furnished transportation to the United States Marine Hospital at Portland, Maine.

NOTE.—At all ports not otherwise specified, the dispensary is located at the custom-house. The rate at ports not specifically provided for, will in each special case be fixed by the Department, upon the recommendation of the proper officer, in accordance with the Regulations of 1879.

The rate of charge for seamen from vessels of the Navy, Light-House Service, and Coast Survey, admitted to hospital under the provisions of paragraph 269, Regulations, and for foreign seamen admitted under the act of March 3, 1875, is fixed at the uniform rate of 75 cents per diem at ports where there are marine hospitals, and at contract rates at other ports.

I am sir, very respectfully, your obedient servant,

JOHN B. HAMILTON.

Supervising Surgeon-General.

Hon. WILLIAM WINDOM,

Secretary of the Treasury.

STATISTICS

UNITED STATES MARINE-HOSPITAL SERVICE.

FINANCIAL AND ECONOMIC.

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UNITED STATES MARINE-HOSPITAL SERVICE.

FINANCIAL AND ECONOMIC.

Table I.—*Comparative Economic Exhibit.*

The following tabular statement will serve to illustrate the results of the reorganization of the Marine-Hospital Service in 1871. (Prior to 1868 no separate records were kept from which the actual cost of the Service for each fiscal year can be ascertained.)

Operations of the Marine-Hospital Service from July 1, 1867, to June 30, 1881.

Fiscal years.	Number of places at which relief is authorized.	Number of sick and disabled seamen furnished relief.	Average cost for each seaman re- lieved. <i>a</i>
Prior to reorganization:			
1868.....	64	11, 535	\$37 24
1869.....	64	11, 356	36 98
1870.....	74	10, 560	38 41
After reorganization:			
1871.....	72	14, 256	31 78
1872.....	81	13, 156	30 12
1873.....	91	13, 529	31 22
1874.....	91	14, 364	27 91
1875.....	94	15, 009	27 99
1876.....	94	16, 808	26 25
1877.....	100	15, 175	24 22
1878.....	210	18, 223	20 04
1879.....	210	20, 922	17 93
1880.....	210	24, 860	16 18
1881.....	210	32, 613	12 27

a This ratio is obtained by dividing the total expenditure by the number of seamen treated.

Table II.—*Exhibit of Operations of the Service during the Year ended June 30, 1881.*

Districts.	Total number of sea-men treated.	Patients in hospital July 1.	Admitted during the year.	Total number treated in hospital.	Discharged.	Died.	Remaining in hospital June 30.	Number of days' relief in hospital.	Number of seamen furnished.	Number of persons examined physically, including pilots.	Tax collected.
Albany, N. Y.	5		5	5	4	1		134		86	\$3,252 50
Alexandria, Va.											\$82 28
Annapolis, Md.	65	3	39	42	39	2		1,066			533 98
Apalachicola, Fla.	23		15	15	12		1	476	24		881 11
Astoria, Oregon	23		15	15	12		3	476	8		1,321 05
Baltimore, Md.	1,742	3	592	592	553	18	21	14,796	1,576	235	21,896 81
Bangor, Maine	100		39	42	41		1	1,327	1,339	7	1,468 73
Barnstable, Mass	371		2	2	2			61	2,410		1,878 61
Bath, Maine	45	1	15	16	16			304	29	26	1,661 71
Beaufort, N. C.	7								7		511 99
Beaufort, S. C.	3								3		388 66
Belfast, Maine	64		7	7	7			150	235		1,036 59
Bismarck, D. T.	29	4	23	27	22		5	708	2	2	1,277 65
Boston, Mass	1,039	17	432	449	418	8	23	9,900	590	192	15,965 54
Brashear, La.	2								3		1,633 99
Bridgeport, Conn											2,963 54
Bridgeton, N. J.											184 96
Bristol, R. I.											259 48
Brownsville, Texas	5		5	5	3	2		169			926 44
Brunswick, Ga.	54			1	1			48	53		236 48
Buffalo, N. Y.	812	24	206	230	207	8	15	6,828	582	120	5,376 90
Burlington, Iowa.	1								1		879 82
Burlington, Vt.	12		3	3	3				54		235 01
Carro, Ill.	1,404	27	508	535	489	24	22	86	9	34	1,627 66
Cape Vincent, N. Y.	3		2	2	2		1	9,900	869		369 42
Castine, Maine.	3		2	2	1			32	1	7	970 76
Cedar Keys, Fla.	40		3	3	2	1		105	37		500 56
Charleston, S. C.	65	1	18	19	18			240	46		466 94
Charleston, S. C.	476	7	191	198	190	4	4	4,238	278	73	4,206 94
Chatanooga, Tenn.	133		10	10	8	2		282	123	15	269 91
Cheboygan, Mich	2								2		
Chicago, Ill	2,706	48	620	668	601	22	45	22,958	2,038	211	7,535 97
Cincinnati, Ohio	2,316	14	420	434	411	19	4	7,316	1,862	169	9,364 70
Cleveland, Ohio	348	12	142	154	132	7	15	4,750	194	99	3,719 10
Corpus Christi, Texas	11		2	2	1		1	16	9		274 43
Crisfield, Md.	74		7	7	6	1		52	67		5,457 83
Detroit, Mich	918	22	359	381	349	13	19	9,384	537	155	6,375 64

Dubuque, Iowa	99	6	71	77	64	13	1,732	22	37	30	642 49
Duluth, Minn.	10		4	4	3	1	98	6	24		130 64
Eastport, Maine	39		8	8	8		177	31	142		2,183 32
Eastville, Va.											1,998 38
Edenton, N. C.	114	2	26	28	27	1	232	86	151	1	1,061 65
El Paso, Texas											80 10
Ellsworth, Maine	63	4	25	29	23	4	723	34	350		1,369 89
Empire City, Oregon	2							2	4		224 69
Erie, Pa.	76	2	31	33	32			43	90	13	2,178 10
Kearsville, Ind.	515	9	230	248	228	13	5,436	267	491	62	1,547 87
Kearsville, Pa.	40		13	15	14	1	218	35	25		295 45
Kail River, Mass.	4		3	3	2	1	59	1	2		3,314 89
Gadens, Ill.											398 86
Galveston, Texas	556	14	316	330	291	14	7,897	226	285	75	3,154 20
Georgetown, D. C. b.	160	4	87	91	85	3	2,135	69	86	31	1,767 17
Georgetown, S. C.	18							18	65		598 72
Gloucester, Mass.	4	1	1	1	1			3	3		811 90
Government Hospital for the Insane c.	15	8	7	15	3	2	3,361	4	4		3,723 21
Grand Haven, Mich.	5		1	1		1	15	3	3		423 05
Indianola, Texas	3										1,871 77
Jacksonville, Fla.	91	1	46	47	43	1	861	44	57	49	77 54
Kennebunk, Maine											2,835 40
Kay West, Fla.	439	5	109	114	103	5	2,650	385	534	7	1,411 67
La Crosse, Wis.	74	2	59	61	56	2	938	13	17	30	2,386 08
Louisville, Ky.	1,190	23	377	400	345	16	13,399	790	1,346	88	1,194 87
Madison, Maine	59	1	18	19	16	3	593	40	48		195 56
Manatee, Fla.	1							1	1		679 59
Marblehead, Mass.											1,522 30
Marquette, Mich.	72	3	28	31	28		408	41	41	27	1,818 33
Memphis, Tenn.	271	2	258	260	244	11	5,639	11	18	3	5,569 62
Middletown, Conn.	16	1	14	15	15		315	1	16		2,843 37
Middleton, Wis.	435	16	205	221	212	4	5,515	214	362	80	631 69
Millwaukee, Wis.	317	7	195	202	186	7	6,098	115	167	84	143 12
Mobile, Ala.	49		42	42	37	3	862	7	10	11	1,093 42
Nashville, Tenn.								1	8		1,971 46
Nantucket, Mass.	1										1,255 10
Newark, N. J.	2		2	2	2	1	103	10	17	13	2,777 75
New Bedford, Mass.	44	6	28	34	32	2	1,000	291	490	14	2,675 68
New Berne, N. C.	336	2	43	45	38	5	1,279	28	118	23	17,459 58
Newburyport, Mass.	1										621 43
New Haven, Conn.	64	1	39	40	35	1	774	24	30	273	67,915 32
New London, Conn.	48							29	1,492		5,379 14
New Orleans, La.	1,908	33	855	888	810	36	21,597	9	13	884	612 27
Newport, R. I.	41	1	32	32	29		662	34,162	1,682	156	1,304 99
New York, N. Y.	2,440	98	1,104	1,202	1,087	43	34,162	1,682	1,982		5,379 69
Norfolk, Va.	1,794	9	323	332	304	17	6,960	29	122		1,204 99
Ogdensburg, N. Y.	29										1,627 43
Oswego, N. Y.											
Patchogue, N. Y.	37		10	10	10		248	27	33	24	

c Washington, D. C.

b Patients treated at Providence Hospital, Washington, D. C.

a Tax included in Pembina report.

II.—*Exhibit of Operations of the Service, &c.—Continued.*

Districts.	Total number of sea- men treated.	Patients in hospital July 1.	Admitted during the year.	Total number treated in hospital.	Discharged.	Died.	Remaining in hos- pital June 30.	Number of days' re- lief in hospital.	Number of seamen furnished office-re- lief.	Number of times of- fice-relief was fur- nished.	Number of persons examined physi- cally, including pi- lots.	Tax collected.
Pensacola, Fla.	330	4	121	125	117	3	5	2,053	205	314	74	\$1,807 91
Pembina.												1,325 62
Petersburg, Va.	8								8	16		201 20
Perth Amboy, N. J.	5								5	49		2,679 60
Philadelphia, Pa.	1,127	34	444	478	430	19	29	13,310	649	795	305	19,532 18
Pittsburgh, Pa.	326	5	168	173	160	5	8	3,651	153	337	223	5,476 35
Plattsburgh, N. Y.	12	1	1	2	2			29	10	123		192 32
Plymouth, Mass.	1								1	5		149 35
Port Huron, Mich.	14								14	161		3,745 90
Portland, Maine.	386	13	151	164	150	7	7	4,304	222	305	85	3,460 16
Portland, Oregon.	105	8	85	93	79	7	7	3,451	12	12		3,615 74
Portsmouth, N. H.	12	1	7	8	6			244	4	5		401 16
Port Townsend, W. T.	455	13	170	183	176	4	3	3,981	272	389	51	3,864 10
Port Jefferson, N. Y.												889 67
Poughkeepsie, N. Y.	1	1		1	1			181				
Providence, R. I.	128	6	97	103	94	3	6	1,037	25	32		2,491 54
Revenue-cutter "S. P. Chase" <i>b</i> .	122		16	16	16			30	106	157		
Richmond, Va.	128	6	87	93	87	1	5	2,751	35	36	13	1,395 36
Rochester, N. Y.	1								1	1		183 92
Saco, Maine.												128 48
Sag Harbor, N. Y.	8		4	4	4			59	4	18		1,198 99
Salem, Mass.	7	3	4	7	6	1		101				226 05
Sandusky, Ohio.	3		2	2	2			23	1	1		1,012 87
San Diego, Cal.												611 93
San Francisco, Cal.	1,198	39	424	463	401	35	27	16,347	735	1,095	211	29,651 98
Savannah, Ga.	759	9	296	305	285	9	11	5,930	454	512	74	3,742 16
Shieldsborough, Miss.	3		1	1	1			24	2	2		1,808 35
Shreveport, La.	211	4	132	136	127	4	5	2,310	75	106		
Sitka, Alaska.												274 75
Somers Point, N. J.	8	1	5	6	6			134	2	25		1,259 07
St. Mary's, Georgia.												192 99
St. Louis, Mo.	1,960	38	768	806	736	22	48	16,063	1,154	1,679	200	12,556 16
St. Paul, Minn.	51	6	44	50	43	1	6	1,789	1	1	20	(<i>c</i>)
Stonington, Conn.												774 96
Suspension Bridge, N. Y.												166 35
Tampa, Fla.	1								1	3		

Tappahannock, Va.....	30	3	21	24	22	1	1	382	6	19	938 39
Toledo, Ohio <i>d</i>	68	2	32	34	28	2	4	1, 124	34	49	903 77
Trenton, N. J.....										18	
Truckton, N. J.....	81	1	4	5	5			958	76	131	695 43
Vicksburg, Miss.....	925	3	219	222	206	7	9	3, 321	3	8	1, 146 72
Vineyard Haven, Mass.....	97	6	51	57	51	2	4	1, 449	40	42	1, 765 06
Waldboro', Maine <i>e</i>	124	1	1	2	2			73	122	563	2, 935 61
Wheeling, W. Va.....	18		18	18	17		1	679			2, 969 25
Wilmington, Cal.....	4	1	1	1	1			29	3	3	
Wilmington, Del.....	6		4	4	4			21	2	2	2, 732 31
Wilmington, N. C.....	214	2	109	111	102	1	8	1, 995	103	189	1, 819 38
Wiscasset, Maine.....	13	1	2	3	3			164	10	47	1, 478 50
Yorktown, Va.....	5								5	5	964 88
	32, 613	654	11, 795	12, 449	11, 337	455	657	309, 596	20, 164	34, 954	4, 746

a Hudson River State Hospital for the Insane.*b* This report includes the period covered by the annual practice cruise.*c* Tax included in Pembina report.*d* The report of treatment of one of the cases remaining in hospital July 1, 1890, was not received until after the publication of the last annual report.*e* The report of treatment of the case remaining in hospital July 1, 1890, was not received until after the publication of the last annual report.

STATISTICS
UNITED STATES MARINE-HOSPITAL SERVICE.

MEDICAL AND SURGICAL.

STATISTICS

UNITED STATES MARINE-HOSPITAL SERVICE,

FISCAL YEAR 1881.

MEDICAL AND SURGICAL.

Table I.—*Table of Relief-Districts.*

1.—NORTH ATLANTIC DISTRICT.

Bangor, Maine; Barnstable, Mass.; Bath, Maine; Belfast, Maine; Boston, Mass.; Bristol, R. I.; Burlington, Vt.; Castine, Maine; Eastport, Maine; Edgartown, Mass.; Ellsworth, Maine; Fall River, Mass.; Gloucester, Mass.; Hyannis, Mass.; Kennebunk, Maine; Machias, Maine; Marblehead, Mass.; Nantucket, Mass.; New Bedford, Mass.; Newburyport, Mass.; Newport, R. I.; Plattsburgh, N. Y.; Plymouth, Mass.; Portland, Maine; Portsmouth, N. H.; Providence, R. I.; Rockland, Maine; Saco, Maine; Salem, Mass.; Vineyard Haven, Mass.; Waldoborough, Maine; Wiscasset, Maine; and York, Maine; together with all subordinate ports.

2.—MIDDLE ATLANTIC DISTRICT.

Albany, N. Y.; Bridgeport, Conn.; Bridgeton, N. J.; Greenport, N. Y.; Lamberton, N. J.; Middletown, Conn.; Newark, N. J.; New Haven, Conn.; New London, Conn.; New York, N. Y.; Patchogue, N. Y.; Perth Amboy, N. J.; Philadelphia, Pa.; Sag Harbor, N. Y.; Somers Point, N. J.; Stonington, Conn.; Troy, N. Y.; Tuckerton, N. J.; and Wilmington, Del.; together with all subordinate ports.

3.—SOUTH ATLANTIC DISTRICT.

Alexandria, Va.; Annapolis, Md.; Baltimore, Md.; Beaufort, N. C.; Beaufort, S. C.; Brunswick, Ga.; Charleston, S. C.; Crisfield, Md.; Eastville, Va.; Edenton, N. C.; Fernandina, Fla.; Georgetown, D. C.; Georgetown, S. C.; Jacksonville, Fla.; New Berne, N. C.; Norfolk, Va.; Petersburg, Va.; Richmond, Va.; Saint Augustine, Fla.; Savannah, Ga.; Tappahannock, Va.; Wilmington, N. C.; and Yorktown, Va.; together with all subordinate ports.

4.—DISTRICT OF THE GULF.

Apalachicola, Fla.; Brashear, La.; Brownsville, Texas; Cedar Keys, Fla.; Corpus Christi, Texas; El Paso, Texas; Galveston, Texas; Key West, Fla.; Mobile, Ala.; New Orleans, La.; Pensacola, Fla.; Shieldsborough, Miss.; and Shreveport, La.; together with all subordinate ports.

5.—DISTRICT OF THE OHIO.

Chattanooga, Tenn.; Cincinnati, Ohio; Evansville, Ind.; Louisville, Ky.; Nashville, Tenn.; Paducah, Ky.; Parkersburgh, W. Va.; Pittsburgh, Pa.; and Wheeling, W. Va.; together with all subordinate ports.

6.—DISTRICT OF THE MISSISSIPPI.

Bismarck, D. Ter.; Burlington, Iowa; Cairo, Ill.; Dubuque, Iowa; Galena, Ill.; La Crosse, Wis.; Memphis, Tenn.; Natchez, Miss.; Omaha, Neb.; Pembina, D. Ter.; Saint Louis, Mo.; Saint Paul, Minn.; and Vicksburgh, Miss.; together with all subordinate ports.

7.—DISTRICT OF THE GREAT LAKES.

Buffalo, N. Y.; Cape Vincent, N. Y.; Chicago, Ill.; Cleveland, Ohio; Detroit, Mich.; Duluth, Minn.; Dunkirk, N. Y.; Erie, Pa.; Escanaba, Mich.; Grand Haven, Mich.; Green Bay, Wis.; Kenosha, Wis.; L'Anse, Mich.; Manitowoc, Wis.; Marquette, Mich.; Milwaukee, Wis.; Muskegon, Mich.; Ogdensburg, N. Y.; Oswego, N. Y.; Racine, Wis.; Rochester, N. Y.; Saint Joseph, Mich.; Sandusky, Ohio; Sault Ste. Marie, Mich.; Sheboygan, Wis.; and Toledo, Ohio; together with all subordinate ports.

8.—DISTRICT OF THE PACIFIC.

Astoria, Oregon; Empire City, Oregon; Portland, Oregon; Port Townsend, W. Ter.; San Diego, Cal.; San Francisco, Cal.; and Sitka, Alaska; together with all subordinate ports.

All relief-stations where the Service is under the charge of a medical officer of the Marine-Hospital Service are known as relief-stations of Class 1. Relief-stations where specific arrangements have been made for the care and treatment of sick or disabled seamen at rates fixed by the Treasury Department, but where collectors of customs, on account of the absence of a medical officer of the Service, are authorized and required to issue permits, and to supervise the relief furnished, are known as relief-stations of Class 2. All other ports where there are officers of the customs revenue, but where, on account of the infrequency of applications for relief, the absence of any hospital, or from other causes, sick or disabled seamen are cared for only in cases of emergency, are known as relief-stations of Class 3.

Table II.—*Summary of Physical Examinations of Seamen, made by Medical Officers of the United States Marine-Hospital Service, Year ended June 30, 1881.*

	SUMMARY OF EXAMINATIONS.			CAUSE OF REJECTION.									
	Total number examined.	Number passed.	Number rejected.	Color-blind.	Defective vision.	Rheumatism.	Syphilis.	Paralysis.	Epilepsy.	Heart disease.	Hernia.	Want of development.	Other causes.
Pilots	4,384	4,268	116	a 116									
Revenue-Marine	305	275	30	3	2	2	3	1	1	6	2	2	8
Merchant-Marine	57	47	10	-----			2	1	1	1		-----	5
Light-House Service													
Life-Saving Service													
Total	4,746	4,590	156	119	2	2	5	2	2	7	2	2	b 13

a Pilots were examined for color-blindness only.

b Of this number there was one case each of enteric fever, phthisis, bronchitis, diarrhœa, hæmorrhoids, curvature of the spine, dislocation of the shoulder, alcoholism, and five cases not stated.

Table III.—*Statement of Physical Examination of Candidates for Appointment as Cadets in the Revenue-Marine Service, May, 1881.*

Number examined	33
Number passed	20
Number rejected	13
Causes of rejection :	
Defective vision a	10
Hypospadias	1
Debility	1
Old-contracted cicatrix from a burn	1

a None of those rejected as having "defective vision" were color-blind.

Table IV.—Statement by Districts of the Number of Patients Treated during the Year ended June 30, 1881.

Districts.	Total cases.	Patients in hospital July 1, 1880.	Admitted during the year.	Total number treated in hospital.	Number discharged from hospital.	Number of deaths.	Number in hospital June 30, 1881.	Number of days' hospital-relief furnished.	Number of seamen furnished office-relief.
North Atlantic.....	2,707	65	930	995	914	28	53	22,578	1,712
Middle Atlantic.....	3,927	137	1,656	1,793	1,623	65	105	49,647	2,134
South Atlantic.....	6,035	53	1,840	1,893	1,750	61	82	45,041	4,142
The Gulf.....	3,957	71	1,808	1,879	1,710	74	95	44,338	2,078
The Ohio.....	4,547	51	1,274	1,325	1,206	58	61	31,655	3,222
The Mississippi.....	4,114	88	1,950	2,038	1,860	67	111	40,090	2,076
The Great Lakes.....	5,539	129	1,642	1,771	1,605	56	110	52,063	3,768
The Pacific.....	1,787	60	695	755	669	46	40	24,184	1,032
Total.....	32,613	654	11,795	12,449	11,337	455	657	309,596	20,164

Table V.—Ratio of Patients Treated in Hospital in each District.

Districts.	Per cent. of total patients.	Districts.	Per cent. of total patients.
North Atlantic.....	7.99 —	The Ohio.....	10.64 —
Middle Atlantic.....	14.40 —	The Mississippi.....	16.37 —
South Atlantic.....	15.21 +	The Great Lakes.....	14.23 +
The Gulf.....	15.00 +	The Pacific.....	6.06 +

Table VI.—Average Duration of Treatment in Hospital in each District.

Districts.	Average duration.	Districts.	Average duration.
	Days.		Days.
North Atlantic.....	22.67	The Ohio.....	23.88
Middle Atlantic.....	27.68	The Mississippi.....	19.66
South Atlantic.....	23.80	The Great Lakes.....	29.42
The Gulf.....	23.60	The Pacific.....	32.03

VII.—Tabular Statement, by Districts, of Diseases and Injuries, &c.—Continued.

NORTH ATLANTIC DISTRICT.

DISEASES.	NUMBER OF CASES.								
	Total treated in hospital.	Remaining under treatment from previous year.	Received during the year.	Discharged.			Died.	Remaining under treatment at the close of year.	Furnished office-relief.
				Recovered.	Improved.	Not improved.			
Local Diseases.									
DISEASES OF THE NERVOUS SYSTEM—Cont'd.									
Inflammation of the nerves									1
Paralysis									1
Hemiplegia	1	1			1				5
Local paralysis	1		1	1					
Epilepsy	3	1	2	1	1	1			3
Epileptic vertigo									7
Spasm of muscle									1
Neuralgia	4		4	3		1			2
Facial	7		7	7					13
Brow ague	3	1	2	3					1
Sciatica	6	1	5	6					14
Pleurodynia	12		12	10	2				27
Irritable stump	1		1	1					
Hypochondriasis									4
Mania—Acute	1		1		1				
Imbecility									1
DISEASES OF THE EYE									
Conjunctivitis	6		6	3	1			2	16
Catarrhal ophthalmia	1		1	1					7
Gonorrhœal ophthalmia									2
Ulcer of the cornea	1		1					1	1
Iritis	3		3	1	1			1	1
Lachrymal abscess									1
Hordeolum									3
Cyst of the lids	1		1	1					
DISEASES OF THE EAR									
Inflammation of the external meatus	3		3	2	1				2
Inflammation of the membrana tympani	1		1	1					
Obstruction of the Eustachian tube	1		1		1				1
Disease of the mucous membrane of the tympanum	1		1	1					1
DISEASES OF THE NOSE									
Ulceration of the pituitary membrane	1		1	1					
DISEASES OF THE CIRCULATORY SYSTEM									
Endocarditis	14	3	11	1	5	1	3	4	10
Valve-disease	1	1			1				1
Hypertrophy of heart	7	1	6		4		2	1	1
Angina pectoris									1
Palpitation and irregular action of heart	2		2			1		1	4
Aneurism of the arteries	2	1	1				1	1	
Obstruction of the right femoral vein	1		1	1					
Varicose veins	1		1					1	3
DISEASES OF THE ABSORBENT SYSTEM									
Inflammation of glands	4		4	2	1	1			5
Suppuration of glands	2		2	2					3
Hypertrophy of glands	1		1		1				
Glandular tumor	1		1			1			2
DISEASES OF THE RESPIRATORY SYSTEM									
Coryza	58	6	52	32	15	2	6	3	171
Laryngeal catarrh									4
Laryngeal fistula	1		1	1					
Laryngitis—Chronic	1		1			1			
Bronchial catarrh									43
Bronchitis—Acute	25	3	22	17	6			2	43
Chronic	5	1	4		4		1		21

VII.—*Tabular Statement, by Districts, of Diseases and Injuries, &c.—Continued.*

NORTH ATLANTIC DISTRICT.

DISEASES.	NUMBER OF CASES.								
	Total treated hospital.	Remaining under treatment from previous year.	Received during the year.	Discharged.			Died.	Remaining under treatment at the close of year.	Furnished office- relief.
				Recovered.	Improved.	Not improved.			
Local Diseases.									
DISEASES OF RESPIRATORY SYSTEM—Cont'd.									
Asthma.....									7
Pneumonia.....	21	2	19	12	3	1	4	1	35
Passive congestion of the lung.....	1		1	1					4
Hæmoptysis.....	1		1		1				5
Acute pneumonic phthisis.....	1		1				1		
Pleurisy.....	1		1	1					5
Hydrothorax.....	1		1		1				
DISEASES OF THE DIGESTIVE SYSTEM.									
Stomatitis.....	93	2	91	69	17	1	2	4	236
Abscess of the antrum.....	1		1					1	2
Caries of the dental tissue.....									1
Inflammation of the dental pulp.....									1
Inflammation of the alveoli.....									1
Hypertrophy of the tongue.....									1
Sore-throat.....									6
Tonsillitis.....	13		13	12	1				15
Pharyngitis.....	1		1	1					16
Ulcer of the pharynx.....									1
Stricture of the œsophagus.....									1
Gastritis.....	9		9	6	2			1	18
Chronic ulcer of the stomach.....	1		1		1				
Hæmatemesis.....									1
Perforation of the stomach.....	1		1				1		
Dyspepsia.....	3		3	1	2				47
Enteritis.....	2		2	2					3
Typhlitis.....	1		1	1					
Dysentery.....	23		23	20	1			2	12
Hernia.....	3		3		3				19
Diarrhœa.....	19	1	18	14	3	1	1		47
Colic.....	1		1	1					1
Constipation.....	1		1		1				10
Fistula in ano.....	3		3	3					3
Hæmorrhoids.....	5		5	3	2				13
Condyloma of the anus.....	1		1	1					1
Hepatitis.....	3	1	2	3					2
Simple enlargement of the liver.....									10
Jaundice.....									4
Obstruction of the hepatic ducts.....	1		1	1					
Peritonitis.....	1		1		1				
DISEASES OF THE URINARY SYSTEM.									
Acute Bright's disease.....	71	8	63	48	16	2	3	2	270
Chronic Bright's disease.....	2	1	1	1	1				4
Granular kidney.....	4		4		1		2	1	
Abscess of the kidney.....	1		1		1		1		
Cystitis—Acute.....	3	1	2	2	1				12
Chronic.....	1		1	1					5
Calculus.....									1
Hæmaturia, vesical.....	1		1	1					3
Irritability of the bladder.....	2		2	2					4
Spasm of the bladder.....									1
Incontinence of urine.....	1		1		1				2
Retention of urine.....									1
Inflammation of the prostate gland.....									1
Gonorrhœa.....	11	2	9	8	3				172
Balanitis.....	1		1	1					5
Phimosis.....	2		2	1	1				
Paraphimosis.....	1		1	1					1
Bubo, gonorrhœal.....	1		1	1	1				2
Epididymitis.....	15	3	12	13	1			1	7
Condyloma.....	2		2	2					1
Gleet.....	1		1	1					30
Urethritis.....	1		1	1					13
Organic stricture of the urethra.....	19		19	12	5	2			5

VII.—*Tabular Statement, by Districts, of Diseases and Injuries, &c.*—Continued.

NORTH ATLANTIC DISTRICT.

[illegible]

VII.—*Tabular Statement, by Districts, of Diseases and Injuries, &c.*—Continued.

NORTH ATLANTIC DISTRICT.

DISEASES.	NUMBER OF CASES.								
	Total treated in hospital.	Remaining under treatment from previous year.	Received during the year.	Discharged.			Died.	Remaining under treatment at the close of year.	Furnished office-relief.
				Recovered.	Improved.	Not improved.			
Injuries	116	15	101	91	17			8	115
GENERAL INJURIES	1		1	1					
Burns and scalds	1		1	1					
LOCAL INJURIES	115	15	100	90	17			8	115
Contusion of head	2	1	1		2				3
Scalp-wound, bone not exposed	4	1	3	4					2
Scalp-wound, bone exposed	1		1	1					
Contusion of the brain	1	1		1					
Fracture of the vault of the skull	1		1	1					
Contusion of the face	1		1	1					1
Wound of the face	3		3	3					3
Foreign bodies in the ear									1
Fracture of the lower jaw	1		1	1					
Foreign body in the cornea									1
Wound of the eyelid	1	1			1				
Wound of the eyeball									2
Contusion of the soft parts of the neck	1		1	1					
Contusion of the chest	6		6	6					6
Fracture of the ribs	3	1	2	3					8
Perforating wound of the chest									2
Contusion of the back	2		2	2					7
Sprain of back	6		6	4	2				4
Fracture and dislocation of the spine	1		1				1		
Contusion of the abdomen	2		2	2					1
Wound of the male perineum	1		1				1		
Contusion of the upper extremities	5		5	3	1		1		10
Sprain of shoulder	1		1	1					
Sprain of elbow									1
Sprain of wrist									3
Wound of the upper extremities	11	2	9	11					16
Fracture of the clavicle	2	1	1	2					
Fracture of the scapula	1		1	1					1
Fracture of the humerus	2		2		2				
Fracture of the carpus, metacarpus, } and phalanges	5		5	4	1				3
Dislocation of the shoulder									2
Dislocation of the wrist and carpus	1		1	1					
Dislocation of the thumb	1		1	1					
Contusion of the lower extremities	12		12	9	3				9
Sprain of the hip	1		1	1					
Sprain of the knee	1		1		1				5
Sprain of the ankle	6	1	5	6					5
Wound of the lower extremities	7	2	5	6	1				12
Fracture of the femur	4	2	2	3	1				1
Fracture of the patella	1		1	1					
Fracture of the leg, both bones	9	1	8	5			4		3
Fracture of the tibia alone	4		4	2	1		1		1
Fracture of the bones of the foot	1		1		1				
Dislocation of the metatarsus	1		1	1					
Rupture of muscle	1		1	1					1
Amputation of the leg	1	1		1					
Supernumerary toe									1

MIDDLE ATLANTIC DISTRICT.

TOTAL CASES	1794	137	1656	1025	554	45	65	105	2134
General Diseases	877	54	823	499	276	17	32	53	765
Small-pox	11		11	3		4	2	2	
Cow-pox	1		1	1					1
Chicken-pox	1		1					1	

VII.—*Tabular Statement, by Districts, of Diseases and Injuries, &c.—Continued.*

MIDDLE ATLANTIC DISTRICT.

DISEASES.	NUMBER OF CASES.								
	Total treated in hospital.	Remaining under treatment from previous year.	Received during the year.	Discharged.			Died.	Remaining under treatment at the close of year.	Furnished office-relief.
				Recovered.	Improved.	Not improved.			
General Diseases.									
Measles.....	7		7	6	1				2
Dengue.....	1		1	1					1
Enteric fever.....	33	1	32	21			9	3	1
Simple continued fever.....	10		10	10					
Yellow fever.....	1		1				1		
Ague—Quotidian.....	92	2	90	86	2			4	43
Tertian.....	78		78	75	2			1	33
Quartan.....	6		6	6					
Irregular.....	90	3	87	82	6			2	108
Remittent fever.....	50	5	45	40	3		3	4	21
Diphtheria.....	1		1	1					
Mumps.....	1		1	1					1
Erysipelas—Simple.....	12		12	12					5
Phlegmonous.....									1
Diffuse inflammation.....									1
Acute rheumatism.....	25	1	24	14	9	1		1	5
Sub-acute rheumatism.....	14	4	10	5	9				27
Gonorrhœal rheumatism.....	6		6	3	1			2	3
Synovial rheumatism.....									1
Muscular rheumatism.....	45	1	44	24	20			1	73
Chronic rheumatism.....	63	3	60	6	46	5		6	67
Acute gout.....	1		1		1				
Chronic osteo-arthritis.....									2
Primary syphilis—Hard chancre.....	16	1	15	3	12	1			20
Indurated bubo.....	23	5	18	16	7				14
Soft chancre.....	79	4	75	46	19	1		13	86
Suppurating bubo.....	41	5	36	18	20			3	18
Secondary syphilis.....	65	5	60	7	54	2	1	1	158
Syphilitic iritis.....									1
Syphilitic rheumatism.....	1		1	1					5
Scirrhus cancer.....	1		1				1		
Epithelial cancer.....	1		1					1	5
Lupus.....									1
Scrofula.....									4
Scrofula with tubercle.....	2		2	1	1				
Scrofula without tubercle.....									1
Scrofulous disease of glands.....	2	1	1		2				
Phthisis pulmonalis.....	78	11	67		53	3	14	8	30
Tubercular laryngitis.....	1		1				1		
Diabetes.....	2	1	1		2				1
Scurvy.....	12	1	11	7	5				4
Anæmia.....	3		3	3					20
General dropsy.....	1		1		1				1
Local Diseases.....	708	63	645	372	244	25	28	41	1218
DISEASES OF THE NERVOUS SYSTEM.....									
Meningitis.....	2		2				2		
Inflammation of the brain.....									1
Yellow softening of the brain.....	1		1		1				
Stroke.....	1		1				1	1	
Fatty and calcareous degeneration of } the cerebral arteries.....	1		1				1		
Spinal sclerosis.....	1		1		1				
Paralysis.....	1		1	1					
Hemiplegia.....	6	1	5		3	1		2	5
Paraplegia.....	1		1		1				
Local paralysis.....	2		2		1			1	5
Facial paralysis.....									1
Epilepsy.....	1		1		1				3
Epileptic vertigo.....	2	1	1	1	1				2
Spasm of muscle.....	1		1	1					
Shaking palsy.....	1		1		1				

VII.—*Tabular Statement, by Districts, of Diseases and Injuries, &c.*—Continued.

MIDDLE ATLANTIC DISTRICT.

DISTRICTS.	NUMBER OF CASES.								
	Total treated in hospital.	Remaining under treatment from previous year.	Received during the year.	Discharged.			Died.	Remaining under treatment at the close of year.	Furnished office-relief.
				Recovered.	Improved.	Not improved.			
Local Diseases.									
DISEASES OF RESPIRATORY SYSTEM—Cont'd.									
Bronchitis—Acute	31		31	22	8			1	65
Chronic	15	2	13		11	1	1	2	47
Asthma	9		9	1	6				10
Pneumonia	18		18	14	1		3		2
Hæmoptysis									3
Pulmonary extravasation	1		1	1					
Chronic pneumonic phthisis	1		1		1				1
Pleurisy	14		14	8	4		1	1	3
Chronic pleurisy	1		1					1	
DISEASES OF THE DIGESTIVE SYSTEM.....									
Stomatitis	128	10	118	87	28	2	3	8	380
Abscess of the cheek									1
Caries of the dental tissue									1
Inflammation of the alveoli									11
Ulcer of the tongue									1
Abscess of the tongue	1		1	1					1
Sore-throat	1		1	1					25
Relaxed throat	1		1		1				3
Ulcerated throat	3		3	3					2
Quinsy	1		1	1	1				
Tonsillitis	9		9	8	1				11
Enlarged tonsils									1
Elongated uvula									3
Pharyngitis	2	1	1	1	1				13
Gastritis	4		4	2	1			1	1
Chronic ulcer of the stomach	2		2				1	1	1
Dyspepsia	10	2	8	5	5				69
Gastredynia	1		1		1				4
Enteritis	1		1	1					5
Dysentery	16	2	14	10	5			1	12
Tænia solium	1		1		1				1
Hernia	6	1	5	2	4				50
Diarrhoea	33	1	32	24	3	1	2	3	49
Colic	4		4	4					7
Constipation	5		5	5					59
Ulceration of the rectum									
Abscess of the rectum and anus	1		1		1				1
Fistula in ano	5	1	4	4				1	1
Hæmorrhoids	6	1	5	4	1	1			12
Hæmorrhage from the rectum	1		1	1	1				
Stricture of the rectum and anus	2		2	2					
Pruritus ani	1		1		1				
Hepatitis	2	1	1	2					5
Abscess of the liver									1
Simple enlargement of the liver	3		3	2				1	6
Cirrhosis of the liver	1		1		1				
Non-malignant tumor of the liver	1		1	1					
Jaundice	3		3	3					8
Gallstones									1
Passage of gallstones through the duct	1		1		1				
Congestion of the spleen									1
DISEASES OF THE URINARY SYSTEM.....									
Acute Bright's disease	127	9	118	71	41	4	3	8	317
Chronic Bright's disease	3		3	1	1			1	
Diuresis	3		3		1	1		1	1
Cystitis—Acute	1		1	1					
Chronic	7		7	1	3		2	1	13
Calculus in the ureter									1
Hæmaturia	2		2	2					1
Suppression of urine	1		1	1					

VII.—*Tabular Statement, by Districts, of Diseases and Injuries, &c.—Continued.*

MIDDLE ATLANTIC DISTRICT.

[illegible]

VII.—*Tabular Statement, by Districts, of Diseases and Injuries, &c.*—Continued.

MIDDLE ATLANTIC DISTRICT.

DISEASES.	NUMBER OF CASES.									
	Total treated in hospital.	Remaining under treatment from previous year.	Received during the year.	Discharged.			Died.	Remaining under treatment at the close of year.	Furnished office-relief.	
				Recovered.	Improved.	Not improved.				
Injuries.										
LOCAL INJURIES—Continued.										
Sprain of the knee	2		2	2						1
Sprain of the ankle	11	1	10	10	1					8
Sprain of toe										1
Wound of the lower extremities	12	3	9	8	3			1		3
Fracture of the femur	7		7	3	4					
Fracture of the patella	1		1	1						
Fracture of the leg, both bones	10	3	7	10						
Fracture of the tibia alone	4	3	1	1	3					
Fracture of the fibula alone	2		2	1	1					
Fracture of the bones of the foot	1		1	1						
Dislocation of the patella										1
Dislocation of the knee	1		1	1						2
Rupture of muscle	2		2	1	1					1
Excision of the eyeball										1
Amputation of part of hand										1
Amputation of finger										1
Amputation of the leg	1		1		1					

SOUTH ATLANTIC DISTRICT.

TOTAL CASES	1893	53	1840	1255	467	28	61	82	4142
General Diseases	1036	23	1013	687	268	12	29	40	1811
Small-pox	14		14	7		1	6		2
Cow-pox									54
Measles	7		7	6	1				14
Scarlet fever	2		2	2					
Dengue	28		28	28					22
Typhus fever	2		2		1		1		
Cerebro-spinal fever	1		1				1		
Enteric fever	15		15	10			3	2	
Simple continued fever	10		10	9				1	7
Febricula	1		1					1	2
Ague—Quotidian	124	1	123	113	9		1		343
Tertian	110		110	91	16	2		1	340
Double tertian	3		3		3				1
Quartan	1		1	1					4
Irregular	37		37	31	2			4	110
Remittent fever	193	5	188	165	13		6	9	98
Simple cholera	5	1	4	4	1				6
Choleraic diarrhoea	2		2	2					1
Diphtheria	1		1		1				1
Whooping-cough	2		2	2					3
Mumps	6		6	6					4
Influenza									1
Erysipelas—Simple	7		7	6	1				2
Phlegmonous	9		9	6	2			1	3
Diffuse inflammation	2		2	1			1		
Acute rheumatism	63	3	60	38	23			2	29
Sub-acute rheumatism	7		7	4	3				27
Gonorrhœal rheumatism	8		8	4	2			2	5
Synovial rheumatism	2	1	1						
Muscular rheumatism	19		19	11	8				113
Chronic rheumatism	27	1	26	10	14	2		1	62
Primary syphilis—Hard chancre	29	1	28	9	20				28
Indurated bubo	4		4	2	1	1			1
Soft chancre	129	1	128	85	36	1		7	154
Suppurating bubo	15		15	12	3				11
Phagedænic sore	6		6	5	1				5

VII.—*Tabular Statement, by Districts, of Diseases and Injuries, &c.—Continued.*

SOUTH ATLANTIC DISTRICT.

DISEASES.	NUMBER OF CASES.								
	Total treated in hospital.	Remaining under treatment from previous year.	Received during the year.	Discharged.			Died.	Remaining under treatment at the close of year.	Furnished office-relief.
				Recovered.	Improved.	Not improved.			
Local Diseases.									
DISEASES OF THE NOSE.....									7
Ozena.....									3
Epistaxis.....									3
Polypus nasi.....									1
DISEASES OF THE CIRCULATORY SYSTEM.....	19	2	17	3	15	1			21
Pericarditis.....	1	1			1				1
Endocarditis.....	1		1		1				
Valve-disease.....	8	1	7		7	1			5
Hypertrophy of heart.....	2		2		2				
Dilatation of heart.....									1
Angina pectoris.....	1		1	1					2
Palpitation and irregular action of heart.....	1		1	1					8
Aneurism of the arteries.....	1		1		1				
Cirroid aneurism.....	1		1		1				
Varicose veins.....	3		3	1	2				4
DISEASES OF THE ABSORBENT SYSTEM.....	22		22	17	5				34
Inflammation of lymphatics.....	1		1	1					
Suppuration of lymphatics.....	1		1	1					1
Inflammation of glands.....	8		8	5	3				12
Suppuration of glands.....	12		12	10	2				20
Hypertrophy of glands.....									1
DISEASES OF THE RESPIRATORY SYSTEM.....	113	1	112	68	24		14	7	422
Coryza.....									16
Laryngitis—Acute.....									3
Chronic.....	1		1		1				2
Ulcer of the larynx.....	1		1					1	
Bronchial catarrh.....	9		9	8	1				45
Bronchitis—Acute.....	44		44	31	11		1	1	281
Chronic.....	15	1	14	5	6		3	1	39
Asthma.....	2		2	1	1				1
Pneumonia.....	22		22	13	1		6	2	9
Passive congestion of the lung.....									2
Hæmoptysis.....	1		1						1
Pulmonary extravasation.....	1		1		1				1
Edema of lung.....	2		2				2		
Acute pneumonic phthisis.....	2		2	1			1		2
Chronic pneumonic phthisis.....	2		2	1	1				1
Pleurisy.....	12		12	8	1		1	2	19
DISEASES OF THE DIGESTIVE SYSTEM.....	171	5	166	117	43	4	3	4	653
Stomatitis.....	1		1	1					7
Abscess of the cheek.....									2
Caries of the dental tissue.....									33
Gum-boil.....									3
Ulceration of the gums.....									2
Dilaceration of the teeth.....									2
Ulcer of the tongue.....									1
Sore-throat.....									9
Ulcerated throat.....									9
Quinsy.....	1		1		1				1
Tonsillitis.....	11		11	6	5				14
Sloughing sore-throat.....									1
Pharyngitis.....	3		3	3					17
Salivation.....									1
Gastritis.....	5		5	4	1				3
Hæmatemesis.....	1		1	1					
Dyspepsia.....	6	1	5	4	2				140
Gastrodynia.....	2		2		2				1
Enteritis.....	6		6	5	1				5

VII.—*Tabular Statement, by Districts, of Diseases and Injuries, &c.*—Continued.

SOUTH ATLANTIC DISTRICT.

NUMBER OF CASES.									
DISEASES.	Total treated in hospital.	Remaining under treatment from previous year.	Received during the year.	Discharged.			Died.	Remaining under treatment at the close of year.	Furnished office-relief.
				Recovered.	Improved.	Not improved.			
Injuries.									
LOCAL INJURIES.....	138	4	134	106	22	2	3	5	142
Contusion of head.....	2		2	1	1				2
Scalp wound, bone not exposed.....	5		5	4	1				3
Fracture of the base of the skull.....	1		1				1		
Wound of the skull.....	1		1					1	
Contusion of the face.....									4
Wound of the face.....	4		4	4					7
Fracture of the lower jaw.....	2		2	2					
Contusion of the eye.....	1		1	1					2
Foreign body in the cornea.....	1		1					1	1
Wound of the eyelid.....									1
Contusion of the soft parts of the neck.....									1
Wound of the neck.....	3		3	2	1				
Contusion of the chest.....	7		7	4	2		1		4
Fracture of the ribs.....	5	1	4	3	2				2
Contusion of the back.....	6		6	5	1				3
Wound of the back.....	1		1	1					
Sprain of back.....	3		3	3					18
Contusion of the abdomen.....	3		3	2	1				
Wound of the parietes.....	1		1	1					
Wound of the male perineum.....	2		2	2					
Contusion of the upper extremities.....	11		11	9	1			1	17
Sprain of shoulder.....									3
Sprain of wrist.....	3	1	2	3					6
Wound of the upper extremities.....	11		11	8	3				26
Fracture of the clavicle.....	1		1			1			1
Fracture of the humerus.....	4		4	1	2	1			5
Fracture of the forearm.....	4	1	3	3	1				1
Fracture of the carpus, metacarpus, } and phalanges.....	2		2	2					5
Dislocation of the shoulder.....	1		1	1					
Dislocation of the elbow.....	1		1		1				
Contusion of the lower extremities.....	11		11	10	1				10
Sprain of the hip.....									1
Sprain of the knee.....	2		2	2					1
Sprain of the ankle.....	10		10	9	1				6
Sprain of tarso-metatarsal articulation.....	2		2	1	1				
Wound of the lower extremities.....	12		12	11	1				7
Wound of joint.....									1
Fracture of the femur.....	2		2	2					3
Fracture of the leg, both bones.....	7	1	6	4			1	2	
Fracture of the tibia alone.....	1		1	1					
Fracture of the fibula alone.....	4		4	3	1				
Fracture of the bones of the foot.....	1		1	1					

DISTRICT OF THE GULF.

TOTAL CASES.....	1863	71	1792	1300	368	26	74	95	2078
General Diseases	1066	37	1029	778	191	13	34	50	797
Small-pox.....	2		2	1			1		
Measles.....	26		26	25	1				
Dengue.....	18		18	18					12
Enteric fever.....	3		3	1			1	1	
Relapsing fever.....	2		2	1	1				
Simple continued fever.....	3		3	3					4
Febricula.....	1		1	1					1
Ague—Quotidian.....	163	4	159	146	12			5	109
Tertian.....	84	2	82	78	3			3	73
Quartan.....	2		2	2					5

VII.—*Tabular Statement, by Districts, of Diseases and Injuries, &c.—Continued.*

DISTRICT OF THE GULF.

DISEASES.	NUMBER OF CASES.								
	Total treated in hospital.	Remaining under treatment from previous year.	Received during the year.	Discharged.			Died.	Remaining under treatment at the close of year.	Furnished office-relief.
				Recovered.	Improved.	Not improved.			
General Diseases.									
Ague—Irrregular	23	1	22	19	2	—	1	1	37
Remittent fever	228	8	220	184	20	3	11	10	63
Simple cholera	1	—	1	—	—	—	—	1	3
Mumps	19	—	19	16	3	—	—	—	8
Influenza	—	—	—	—	—	—	—	—	2
Erysipelas—Simple	2	—	2	2	—	—	—	—	5
Phlegmonous	4	—	4	3	—	1	—	—	—
Acute rheumatism	40	2	38	30	8	—	—	2	19
Sub-acute rheumatism	10	1	9	8	1	1	—	—	16
Gonorrhœal rheumatism	3	—	3	—	2	1	—	—	2
Synovial rheumatism	1	—	1	1	—	—	—	—	3
Muscular rheumatism	26	4	22	18	8	—	—	—	75
Chronic rheumatism	32	1	31	12	19	1	—	—	24
Chronic osteo-arthritis	—	—	—	—	—	—	—	—	1
Primary syphilis—Hard chancre	12	—	12	8	2	—	—	2	14
Indurated bubo	7	—	7	6	—	—	—	1	8
Soft chancre	131	4	127	95	29	2	—	5	91
Suppurating bubo	36	1	35	31	2	1	—	2	12
Phagedænic sore	—	—	—	—	—	—	—	—	1
Secondary syphilis	110	3	107	64	38	1	1	6	152
Syphilitic deposit, spinal cord	—	—	—	—	—	—	—	—	1
Syphilitic iritis	1	—	1	—	—	—	—	1	—
Syphilitic tumor of bone	1	—	1	1	—	—	—	—	—
Syphilitic rheumatism	5	—	5	1	4	—	—	—	3
Cancer scirrhus	2	1	1	—	1	—	—	1	—
Cancer epithelial	1	1	—	—	—	—	—	1	—
Rodent ulcer	—	—	—	—	—	—	—	—	1
True leprosy	1	—	1	—	1	—	—	—	—
Scrofula	3	—	3	—	3	—	—	—	2
Scrofula without tubercle	—	—	—	—	—	—	—	—	2
Scrofulous disease of glands	—	—	—	—	—	—	—	—	1
Phthisis pulmonalis	54	4	50	—	28	1	17	8	41
Acute military tuberculosis	1	—	1	—	—	—	1	—	2
Diabetes	2	—	2	—	2	—	—	—	2
Scurvy	1	—	1	1	—	—	—	—	—
Anæmia	2	—	2	1	—	—	1	—	1
General dropsy	3	—	3	1	1	1	—	—	1
Local Diseases	603	24	579	383	141	12	35	32	1087
DISEASES OF THE NERVOUS SYSTEM									
Meningitis	46	6	40	22	14	1	5	4	65
Apoplexy	1	—	1	—	1	—	—	—	1
Sunstroke	3	1	2	—	2	—	1	—	—
Sunstroke	4	—	4	3	—	—	1	—	—
Myelitis	1	—	1	—	1	—	—	—	6
Neuroma	1	—	1	1	—	—	—	—	1
Paralysis	1	—	1	—	—	—	1	—	—
Hemiplegia	4	—	4	—	2	—	1	1	1
Paraplegia	2	2	—	1	1	—	—	—	2
Local paralysis	1	—	1	1	—	—	—	—	1
Facial paralysis	1	—	1	1	—	—	—	—	1
Epilepsy	3	1	2	—	3	—	—	—	5
Spasm of muscle	1	—	1	1	—	—	—	—	—
Neuralgia	1	—	1	—	1	—	—	—	8
Facial	2	—	2	2	—	—	—	—	9
Brow ague	2	—	2	2	—	—	—	—	11
Sciatica	8	—	8	7	1	—	—	—	4
Pleurodynia	5	—	5	3	1	—	—	1	14
Hyperæsthesia	1	—	1	—	1	—	—	—	1
Mania—Acute	1	1	—	—	—	1	—	—	—
Chronic	1	—	1	—	—	—	—	1	—
Dementia	2	1	1	—	—	—	1	1	—

a Cause of death, cerebral congestion.

VII.—*Tabular Statement, by Districts, of Diseases and Injuries, &c.*—Continued.

DISTRICT OF THE GULF.

DISEASES.	NUMBER OF CASES.									
	Total treated in hospital.	Remaining under treatment from previous year.	Received during the year.	Discharged.			Died.	Remaining under treatment at the close of year.	Furnished office-relief.	
				Recovered.	Improved.	Not improved.				
Local Diseases.										
DISEASES OF THE EYE	12		12	9	2			1	21	
Conjunctivitis	3		3	2	1				9	
Catarrhal ophthalmia	1		1	1						
Gonorrhoeal ophthalmia	2		2	1				1		
Pterygium									3	
Keratitis									2	
Ulcer of the cornea	1		1	1					2	
Iritis	5		5	4	1				3	
Glaucoma									1	
Cyst of the lids									1	
DISEASES OF THE EAR	2		2	1	1				6	
Inflammation of the external meatus	1		1		1				1	
Abscess of the external meatus	1		1	1					2	
Accumulation of wax									1	
Deafness									2	
DISEASES OF THE NOSE									2	
Sebaceous cyst									1	
Ozena									1	
DISEASES OF THE CIRCULATORY SYSTEM	24		24	3	16		3	2	20	
Pericarditis	1		1	1						
Endocarditis	6		6		6					
Valve-disease	9		9		6		2	1	4	
Hypertrophy of heart	2		2	1			1		4	
Fatty degeneration of heart	2		2		2					
Angina pectoris									1	
Palpitation and irregular action of heart									5	
Fatty and calcareous degeneration of } the arteries									1	
Aneurism of the arteries	2		2		1			1	1	
Varicose veins	2		2	1	1				4	
DISEASES OF THE ABSORBENT SYSTEM	8		8	4	4				7	
Inflammation of lymphatics	2		2	2						
Inflammation of glands	5		5	2	3				4	
Hypertrophy of glands	1		1		1				3	
DISEASES OF DUCTLESS GLANDS	1		1				1			
Addison's disease	1		1				1			
DISEASES OF THE RESPIRATORY SYSTEM	141	5	136	85	26	7	16	7	155	
Coryza									3	
Laryngitis—Acute									5	
Chronic	2		2	1	1				1	
Ulcer of the larynx									1	
Edema of the glottis	1		1				1			
Bronchial catarrh									24	
Bronchitis—Acute	31	1	30	27	3		1		75	
Chronic	20		20	8	10			2	19	
Dilatation of the bronchi	1		1					1		
Asthma									8	
Pneumonia	47	2	45	32	2	4	8	1	2	
Hemoptysis									3	
Emphysema	1		1			1			2	
Acute pneumonic phthisis	8		8	2	2	1	3			
Chronic pneumonic phthisis	12	2	10	1	6	1	2	2	1	
Pleurisy	17		17	14	2			1	10	
Chronic pleurisy	1		1				1			

VII.—*Tabular Statement, by Districts, of Diseases and Injuries, &c.—Continued.*

DISTRICT OF THE GULF.

DISEASES.	NUMBER OF CASES.								
	Total treated in hospital.	Remaining under treatment from previous year.	Received during the year.	Discharged.			Died.	Remaining under treatment at the close of year.	Furnished office-relief.
				Recovered.	Improved.	Not improved.			
Local Diseases.									
DISEASES OF URINARY SYSTEM—Cont'd.									
Abscess of the prostate gland	1		1					1	
Gonorrhœa	20	4	16	17	3				156
Balanitis	1		1	1					11
Phimosis	4		4	3		1			
Paraphimosis									2
Bubo, gonorrhœal	2		2	2					1
Epididymitis	10		10	7	2			1	6
Condyloma	1		1		1				3
Gleet	2		2	1	1				19
Urethritis	1		1	1					4
Organic stricture of the urethra	20		20	11	8			1	12
Urinary fistula	1	1		1					
Non-malignant tumor of the penis									1
DISEASES OF THE GENERATIVE SYSTEM									
Varicocele	15		15	11	4				24
Neuralgia of the cord									1
Hydrocele of the tunica vaginalis	3		3	1	2				5
Orchitis	12		12	10	2				10
Abscess of the testicle									2
Spermatorrhœa									4
Neuralgia of the testicle									1
DISEASES OF THE ORGANS OF LOCOMOTION.									
Periostitis	22	1	21	10	7	1		4	8
Caries	6		6	3	2			1	4
Osteous tumor	2	1	1		2				
Acute synovitis	1		1		1				
Abscess of the muscles	8		8	5	1			2	3
Progressive muscular atrophy	1		1		1				
Enlarged bursa hand	2		2			1		1	
Bursal abscess									1
	2		2	2					
DISEASES OF THE CELLULAR TISSUE.									
Inflammation	20		20	16	3			1	21
Abscess	7		7	5	1			1	2
	13		13	11	2				19
DISEASES OF THE CUTANEOUS SYSTEM.									
Erticaria	69		69	46	18	2	1	2	108
Miliaria	1		1	1					1
Herpes									16
Eczema	4		4	3	1				4
Rupia	1		1	1					
Aene	1		1						2
Chilblain									21
Frostbite	6		6	6					1
Ulcer	37		37	24	11	1	a 1		30
Boil	4		4	2	2				10
Carbuncle	4		4	2	2				3
Onychia									1
Whitlow	9		9	5	1	1		2	10
Gangrene	1		1	1					
Fibro-cellular tumor									1
Fatty tumor	1		1	1					
Warts									1
Ingrown nail									1
Tinea tonsurans									2
Irritation caused by poisonous fish									1
Conditions not Necessarily Associated with General or Local Diseases.									
DEBILITY.	6	1	5	4	1			1	30

a Pyæmia.

VII.—*Tabular Statement, by Districts, of Diseases and Injuries, &c.—Continued.*

DISTRICT OF THE GULF.

DISEASES.	NUMBER OF CASES.								
	Total treated in hospital.	Remaining under treatment from previous year.	Received during the year.	Discharged.			Died.	Improved.	Furnished office-relief.
				Recovered.	Improved.	Not improved.			
Poisons	10		10	5	3		2		4
Lead colic	1		1	1					
Lead palsy	1		1		1				
Alcohol	4		4	2	2				4
Delirium tremens	4		4	2			2		
Undetermined				2					1
Injuries	194	9	185	146	32	1	3	12	159
GENERAL INJURIES	14	1	13	9	4		1		8
Burns and scalds	8	1	7	5	3				8
Multiple injury	6		6	4	1		1		
LOCAL INJURIES	180	8	172	137	28	1	2	12	151
Contusion of head			5	5					3
Scalp-wound, bone not exposed	5		5	2					8
Scalp-wound, bone exposed	2		2	2					1
Concussion of the brain	2		2	2					2
Contusion of the face	4		4	4					1
Wound of the face	4		4	3				1	4
Foreign bodies in the ear									2
Fracture of the lower jaw	1		1	1					
Contusion of the eye	3		3	2	1				
Wound of the eyelid	1		1	1					
Wound of the sclerotic	1		1	1					
Contusion of the chest	8		8	7			1		8
Fracture of the ribs	7	1	6	3	4				
Perforating wound of the chest	3		3	2				1	
Penetrating wound of the pleura	1		1	1					
Contusion of the back	6		6	3	1			2	2
Wound of the back	2		2		1			1	
Sprain of back	9	2	7	8				1	8
Fracture and dislocation of the spine	1		1				1		
Contusion of the abdomen	1		1	1					3
Wound of the parietes	2	1	1	2					5
Contusion of the pelvis	1		1	1					
Wound of the male perineum									1
Contusion of the upper extremities	9		9	8	1				17
Sprain of shoulder	1		1		1				9
Sprain of elbow	1		1		1				1
Sprain of wrist	2		2	2					
Wound of the upper extremities	18		18	12	5	1			34
Fracture of the humerus	2		2	2					
Fracture of the forearm	3	1	2	2	1				2
Fracture of the carpus, metacarpus, } and phalanges	3	1	2	3					2
Dislocation of the shoulder	2		2	2					1
Dislocation of the wrist and carpus	1		1	1					
Dislocation of the phalangeal joints									3
Contusion of the lower extremities	19		19	13	4			2	15
Sprain of the hip									1
Sprain of the knee	1		1	1					
Sprain of the ankle	14	1	13	13	1				5
Wound of the lower extremities	20	1	19	16	4				10
Fracture of the femur	5		5	5					
Fracture of the patella									1
Fracture of the leg, both bones	7		7	3	1			3	
Fracture of the tibia alone	3		3	1	1			1	
Fracture of the fibula alone	5		5	4	1				

VII.—Tabular Statement, by Districts, of Diseases and Injuries, &c.—Continued.

DISTRICT OF THE OHIO.

DISEASES.	NUMBER OF CASES.									
	Total treated in hospital.	Remaining under treatment from previous year.	Received during the year.	Discharged.			Died.	Remaining under treatment at the close of year.	Furnished office-relief.	
				Recovered.	Improved.	Not improved.				
TOTAL CASES	1325	51	1274	925	261	20	58	61	3222	
General Diseases	686	35	651	434	168	9	36	39	1389	
Small-pox	14	—	14	6	—	—	8	—	1	
Cow-pox	—	—	—	—	—	—	—	—	126	
Measles	9	—	9	9	—	—	—	—	6	
Cerebro-spinal fever	5	—	5	3	—	—	2	—	—	
Enteric fever	24	—	24	12	2	—	9	1	—	
Ague—Quotidian	47	1	46	44	—	—	—	3	130	
Tertian	22	—	22	21	1	—	—	—	80	
Quartan	—	—	—	—	—	—	—	—	1	
Irregular	12	—	12	11	1	—	—	—	118	
Remittent fever	73	2	71	61	1	—	6	5	24	
Simple cholera	9	1	8	8	—	—	1	—	5	
Mumps	6	—	6	6	—	—	—	—	6	
Erysipelas—Simple	2	—	2	2	—	—	—	—	8	
Acute rheumatism	50	1	49	38	10	—	—	2	26	
Sub-acute rheumatism	15	1	14	13	2	—	—	—	102	
Muscular rheumatism	5	—	5	2	—	—	—	3	57	
Chronic rheumatism	23	3	20	10	10	1	—	2	25	
Acute gout	—	—	—	—	—	—	—	—	2	
Primary syphilis—Hard chancre	28	3	25	12	12	1	—	3	46	
Indurated bubo	1	—	1	1	—	—	—	—	2	
Soft chancre	148	14	134	104	33	1	—	10	234	
Suppurating bubo	6	—	6	5	—	—	—	1	15	
Secondary syphilis	119	7	112	48	66	2	1	2	282	
Syphilitic iritis	3	1	2	3	—	—	—	—	2	
Syphilitic rheumatism	29	—	29	15	9	2	—	3	20	
Scrofula	—	—	—	—	—	—	—	—	2	
Scrofulous disease of glands	—	—	—	—	—	—	—	—	2	
Phthisis pulmonalis	35	1	34	—	21	2	9	3	64	
Diabetes	1	—	1	—	—	—	—	1	3	
Anæmia	—	—	—	—	—	—	—	—	2	
Local Diseases	431	12	419	328	65	8	18	12	1568	
DISEASES OF THE NERVOUS SYSTEM	22	2	20	11	2	3	4	2	59	
Meningitis	1	—	1	—	—	—	1	—	2	
Inflammation of the brain	1	—	1	—	—	—	1	—	—	
Sunstroke	3	—	3	2	—	—	1	—	—	
Paralysis	—	—	—	—	—	—	—	—	1	
Hemiplegia	2	1	1	—	—	1	—	1	—	
Locomotor ataxy	1	1	—	—	—	—	1	—	—	
Facial paralysis	1	—	1	—	1	—	—	—	1	
Epilepsy	1	—	1	—	—	—	—	1	3	
Chorea	1	—	1	—	—	1	—	—	—	
Neuralgia—Facial	5	1	4	4	1	—	—	—	14	
Brow ague	1	—	1	1	—	—	—	—	7	
Sciatica	1	—	1	1	—	—	—	—	10	
Pleurodynia	2	—	2	2	—	—	—	—	14	
Hypochondriasis	—	—	—	—	—	—	—	—	6	
Mania—Acute	2	—	2	1	—	1	—	—	—	
Melancholia	—	—	—	—	—	—	—	—	1	
DISEASES OF THE EYE	7	—	7	6	1	—	—	—	19	
Conjunctivitis	1	—	1	1	—	—	—	—	10	
Purulent ophthalmia	1	—	1	1	—	—	—	—	—	
Gonorrhœal ophthalmia	1	—	1	1	—	—	—	—	—	
Ulcer of the cornea	1	—	1	1	—	—	—	—	2	
Staphyloma	1	—	1	1	—	—	—	—	1	
Iritis	2	—	2	1	1	—	—	—	6	
DISEASES OF THE EAR	2	—	2	2	—	—	—	—	11	
Simple cyst	—	—	—	—	—	—	—	—	1	
Accumulation of wax	—	—	—	—	—	3	—	—	3	
Inflammation of the membrani tympani	2	—	2	2	—	—	—	—	4	

VII.—*Tabular Statement, by Districts, of Diseases and Injuries, &c.*—Continued.

DISTRICT OF THE OHIO.

DISEASES.	NUMBER OF CASES.								
	Total treated in hospital.	Remaining under treatment from previous year.	Received during the year.	Discharged.			Died.	Remaining under treatment at the close of year.	Furnished office-relief.
				Recovered.	Improved.	Not improved.			
Local Diseases.									
DISEASES OF THE EAR—Continued.									
Ulceration of the membrana tympani									1
Deafness									2
DISEASES OF THE NOSE									
Ozæna									11
Ulceration of the pituitary membrane									7
									4
DISEASES OF THE CIRCULATORY SYSTEM									
Pericarditis	14		14	5	7		1	1	24
Endocarditis	2		2	2					
Valve-disease	1		1	1					
Hypertrophy of heart	6		6		5		1		12
Palpitation and irregular action of heart	1		1		1				1
Phlebitis									6
Fibrinous concretions in the veins									1
Varicose veins	4		4	2	1			1	3
DISEASES OF THE ABSORBENT SYSTEM									
Inflammation of glands	4		4	3	1				23
Suppuration of glands	1		1	1					19
Hypertrophy of glands	3		3	2	1				2
									2
DISEASES OF THE RESPIRATORY SYSTEM									
Coryza	108	1	107	80	17		8	3	285
Ulceration of the epiglottis									8
Laryngeal catarrh									3
Laryngitis—Acute									2
Aphonia	3		3	2	1				4
Bronchial catarrh	6		6	6					3
Bronchitis—Acute	24		24	19	5				30
Chronic	1		1	1					170
Asthma	1		1		1				17
Pneumonia	52	1	51	37	5		7	3	4
Chronic pneumonic phthisis	2		2		2				10
Pleurisy	19		19	15	3		1		26
Chronic pleurisy									3
DISEASES OF THE DIGESTIVE SYSTEM									
Stomatitis	156	3	153	134	15	1	3	3	505
Abscess of the cheek	1		1	1					1
Caries of the dental tissue									25
Ulceration of the dental pulp									1
Gum-boil									1
Necrosis of the alveoli									1
Caries of the alveoli									1
Glossitis									1
Sore-throat	4		4	4					34
Quinsy									1
Tonsillitis	4		4	4					12
Enlarged tonsils	1		1		1				3
Pharyngitis	2		2	2					11
Ulcer of the pharynx									2
Gastritis	3		3	3					3
Chronic ulcer of the stomach	1		1		1				
Dyspepsia	6	1	5	4	2				34
Gastrodynia									4
Pyrosis									1
Enteritis	1		1				1		1
Dysentery	62		62	54	4		2	2	69
Hernia	1		1		1				17
Ascaris lumbricoides	1		1	1					
Diarrhœa	54	2	52	52		1		1	133

VII.—*Tabular Statement, by Districts, of Diseases and Injuries, &c.—Continued.*

DISTRICT OF THE OHIO.

DISEASES.	NUMBER OF CASES.									
	Total treated in hospital.	Remaining under treatment from previous year.	Received during the year.	Discharged.			Died.	Remaining under treatment at the close of year.	Furnished office relief.	
				Recovered.	Improved.	Not improved.				
Local Diseases.										
DISEASES OF DIGESTIVE SYSTEM—Cont'd.										
Colic.....	1		1	1						8
Constipation.....										95
Ulceration of the rectum.....	1		1		1					2
Abscess of the rectum and anus.....	1		1	1						1
Fistula in ano.....	1		1	1						3
Hæmorrhoids.....	2		2	1	1					20
Prolapsus of the rectum and anus.....	1		1		1					3
Stricture of the rectum and anus.....	1		1		1					1
Coudyloma of the anus.....										1
Pruritus ani.....										1
Hepatitis.....	3		3	2	1					1
Simple enlargement of the liver.....	1		1		1					1
Curhosis of the liver.....										3
Jaundice.....	1		1	1						5
Passage of gallstones through the duct.....										3
Splenitis.....	2		2	2						
Hypertrophy of the spleen.....										1
DISEASES OF THE URINARY SYSTEM.....										
Chronic Bright's disease.....	1		1		1					
Abscess of the kidney.....	2	1	1	1			1			
Pyelitis.....										1
Hæmaturia renalis.....										1
Diuresis.....										1
Cystitis—Acute.....	4		4	4						42
Chronic.....	3	1	2		3					8
Calculus.....										1
Uric acid.....										8
Irritability of the bladder.....										8
Incontinence of urine.....	1		1	1						
Retention of urine.....										1
Chronic enlargement of the prostate gland.....										2
Gonorrhœa.....	2		2	1	1					278
Balanitis.....										8
Phimosis.....	15	1	14	14	1					8
Paraphimosis.....	1		1	1						1
Bubo, gonorrhœal.....	2		2	1	1					3
Epididymitis.....	13		13	12				1		14
Condyloma.....										6
Gleet.....	1		1	1						26
Urethritis.....	1		1	1						5
Organic stricture of the urethra.....	5		5		4	1				10
Ulcer of the urethra.....										1
Inflammation of the penis.....										1
DISEASES OF THE GENERATIVE SYSTEM.....										
Hydrocele of the cord.....	11		11	10					1	37
Orchitis.....	10		10	9				1		1
Spermatorrhœa.....										9
Impotence.....										10
Neuralgia of the testicle.....										2
Cystocele.....										2
Amenorrhœa.....										3
Dysmenorrhœa.....										1
Menorrhagia.....	1		1	1						1
DISEASES OF THE ORGANS OF LOCOMOTION.....										
Periostitis.....	6	1	5	3	1	1	1			10
Necrosis.....	1		1			1				1
Osteous tumor.....										1
Acute synovitis.....	2		2	2						3

VII.—*Tabular Statement, by Districts, of Diseases and Injuries, &c.*—Continued.

DISTRICT OF THE OHIO.

DISEASES.	NUMBER OF CASES.								
	Total treated in hospital.	Remaining under treatment from previous year.	Received during the year.	Discharged.			Died.	Remaining under treatment at the close of year.	Furnished office-relief.
				Recovered.	Improved.	Not improved.			
Local Diseases.									
DISEASES OF ORGANS OF LOCOMOTION—Cont'd.									
Chronic synovitis	1		1	1					1
Loose cartilage	1		1		1				1
Displacement of articular cartilage									2
Neuralgia of joints									1
Caries and necrosis of the spine	1	1					1		
Inflammation of tendons									1
DISEASES OF THE CELLULAR TISSUE									
Inflammation	12	1	11	11	1				40
Abscess	4		4	4					7
	8	1	7	7	1				33
DISEASES OF THE CUTANEOUS SYSTEM									
Erythema	38	1	37	26	9	2		1	110
Urticaria	1		1	1					1
Psoriasis									10
Herpes	1		1	1					4
Eczema									17
Rupia									3
Acne									1
Chilblain	2		2		1	1			3
Frostbite	15		15	14	1				5
Ulcer	14	1	13	5	7	1		1	27
Boil									8
Carbuncle	3		3	3					7
Whitlow	1		1	1					7
Fibro-cellular tumor									4
Warts									1
Ingrown nail	1		1	1					2
Tinea versicolor									1
Scabies									8
Irritation caused by phthirius inguinalis									1
Conditions not Necessarily Associated with General or Local Diseases.									
DEBILITY									
	12		12	10	2				51
Poisons									
	24		24	23	1				11
Alcohol	12		12	12					11
Delirium tremens	12		12	11	1				
Undetermined									13
Injuries									
	172	4	168	130	25	3	4	10	190
GENERAL INJURIES									
Burns and scalds	15		15	10	2		2	1	8
Exposure to cold	13		13	8	2		2	1	7
	2		2	2					1
LOCAL INJURIES									
Contusion of head	157	4	153	120	23	3	2	9	182
Scalp-wound, bone not exposed	4		4	4					4
Scalp-wound, bone exposed	3		3	3					6
Contusion of the brain	2		2	2					2
Fracture of the vault of the skull	4	1	3	3	1				2
Wound of the skull	1		1	1					
Contusion of the face	1		1	1					2
Wound of the face	7		7	4	3				9
Fracture of the facial bones									1
Fracture of the lower jaw	2		2	1				1	2
Contusion of the eye	3		3	2	1				3

VII.—Tabular Statement, by Districts, of Diseases and Injuries, &c.—Continued.

DISTRICT OF THE OHIO.

DISEASES.	NUMBER OF CASES.								
	Total treated in hospital.	Remaining under treatment from previous year.	Received during the year.	Discharged.			Died.	Remaining under treatment at the close of year.	Furnished office-relief.
				Recovered.	Improved.	Not improved.			
Injuries.									
LOCAL INJURIES—Continued.									
Foreign body in the cornea.....									2
Wound of the neck.....	1		1	1					1
Contusion of the chest.....	4		4	3	1				3
Fracture of the ribs.....	3		3	3					3
Perforating wound of the chest.....	2		2	1				1	3
Penetrating wound of the pleura or lung.	1		1	1					
Contusion of the back.....	6		6	3	3				5
Wound of the back.....	2		2				1	1	3
Sprain of back.....	5		5	4	1				7
Wound of the parietes.....									1
Wound of the male perineum.....	1		1	1					5
Contusion of the upper extremities.....	6	1	5	4				2	10
Sprain of shoulder.....	2		2	2					
Sprain of elbow.....	1		1	1					1
Sprain of wrist.....									5
Wound of the upper extremities.....	21	1	20	18	2		1		36
Fracture of the forearm.....	6		6	3	1	1		1	9
Fracture of the carpus, metacarpus, } and phalanges.....	1		1	1					3
Dislocation of the shoulder.....	2		2	2					1
Dislocation of the thumb.....									2
Contusion of the lower extremities.....	25		25	19	4	1		1	18
Sprain of the knee.....									2
Sprain of the ankle.....	7		7	6	1				9
Wound of the lower extremities.....	20		20	16	3	1			16
Wound of knee-joint.....	1		1	1					1
Fracture of the femur.....	2		2	1				1	1
Fracture of the patella.....									2
Fracture of the leg, both bones.....	4	1	3	2	1			1	
Fracture of the tibia alone.....	2		2	2					1
Fracture of the fibula alone.....	2		2	1	1				1
Fracture of the bones of the foot.....	3		3	3					

DISTRICT OF THE MISSISSIPPI.

TOTAL CASES	2035	88	1950	1339	504	17	67	111	2076
General Diseases	1121	34	1087	701	334	13	23	50	902
Small-pox	2		2	1			1		
Measles	3		3	3					1
Scarlet fever	1		1	1					
Dengue									1
Cerebro-spinal fever	4		4	1			3		
Enteric fever	14	1	13	10			3	1	
Simple continued fever	2		2	1	1				
Ague—Quotidian	15	3	155	145	8	2		3	157
Tertian	98		98	87	6			5	71
Quartan	3		3	1	2				9
Irregular	11		11	11					70
Remittent fever	181	5	176	152	10		5	14	22
Simple cholera	3		3	3					5
Diphtheria	2		2	2					
Mumps	3		3	2	1				4
Phagedena	1		1		1				
Erysipelas—Simple	11		11	11					1
Phegmonous	9		9	9					1
Diffuse Inflammation	2		2	2					
Acute rheumatism	51	3	48	44	5	1		1	14
Sub-acute rheumatism	12	1	11	12					6

DISTRICT OF THE MISSISSIPPI.

DISEASES.	NUMBER OF CASES.								
	Total treated in hospital.	Remaining under treatment from previous year.	Received during the year.	Discharged.			Died.	Remaining under treatment at the close of year.	Furnished office relief.
				Recovered.	Improved.	Not improved.			
General Diseases.									
Gonorrhoeal rheumatism	9	1	8	6	3				4
Synovial rheumatism	7	1	6	7					9
Muscular rheumatism	39	2	37	31	7	1			90
Chronic rheumatism	42	2	40	24	17			1	46
Chronic osteo-arthritis									1
Primary syphilis—Hard chancre	64	3	61	13	49			2	48
Indurated bubo	1		1	1					6
Soft chancre	168	3	165	91	62	2		13	86
Suppurating bubo	29	1	28	20	6	1		2	14
Phagedænic sore	1		1		1				
Secondary syphilis	128	6	122	8	114	3		3	194
Syphilitic iritis	1		1		1				
Syphilitic rheumatism	4		4		4				
Epithelial cancer									2
Lupus exedens									4
Rodent ulcer	1		1		1				4
Scrofula	1		1		1				3
Scrophulous disease of glands	1		1		1				2
Phthisis pulmonalis	51	2	49		32	3	11	5	28
Diabetes	1		1		1				2
Anæmia									1
General dropsy	3		3	2	1				
Local Diseases	638	36	602	423	127	2	39	47	988
DISEASES OF THE NERVOUS SYSTEM	26	2	24	18	2	1	4	1	58
Meningitis	1		1				1		1
Sunstroke	2		2	1			1		1
Myelitis									1
Inflammation of the nerves	1		1	1					3
Paralysis	1		1		1				
Hemiplegia	2		2				1	1	
Locomotor ataxy	1		1			1			
Local paralysis									2
Facial paralysis	1		1	1					2
Epilepsy	1		1		1				3
Epileptic vertigo									3
Neuralgia									3
Facial	1	1		1					9
Brow ague	4	1	3	4					11
Sciatica	3		3	3					3
Pleurodynia	6	6	6						18
Hypochondriasis	1		1	1					2
Dementia	1		1				1		
DISEASES OF THE EYE	17	2	15	10	3			4	20
Conjunctivitis	6		6	4				2	12
Gonorrhoeal ophthalmia	1		1					1	
Pterygium									2
Fatty tumor of the conjunctivi									2
Keratitis	2		2	1				1	
Ulcer of the cornea	1		1	1					
Iritis	6	1	5	4	2				3
Choroiditis	1	1			1				
Trichiasis									1
DISEASES OF THE EAR	2	2	2						9
Inflammation of the external meatus									1
Abscess of the external meatus	2	2	2						1
Accumulation of wax									4
Perforation of the membrana tympani	1		1						1
Organic disease of the internal ear									1

VII.—*Tabular Statement, by Districts, of Diseases and Injuries, &c.—Continued.*

DISTRICT OF THE MISSISSIPPI.

DISEASES.	NUMBER OF CASES.								
	Total treated in hospital.	Remaining under treatment from previous year.	Received during the year.	Discharged.			Died.	Remaining under treatment at the close of year.	Furnished office-relief.
				Recovered.	Improved.	Not improved.			
Local Diseases.									
DISEASES OF THE URINARY SYSTEM.....	85	4	81	49	26	1	2	7	271
Acute Bright's disease.....	4	1	3	2	2				
Chronic Bright's disease.....	8	1	7		5		2	1	
Pyelitis.....	1		1		1				
Hæmaturia renalis.....	1		1	1					1
Suppression of urine.....	1		1	1					
Diuresis.....									1
Cystitis—Acute.....	5	1	4	5					4
Chronic.....	1		1					1	1
Hæmaturia, vesical.....	1		1	1					1
Incontinence of urine.....									1
Inflammation of the prostate gland.....	4		4	3	1				
Chronic enlargement of the prostate gland.....									2
Gonorrhœa.....	25		25	18	4			3	205
Balanitis.....									9
Phimosis.....									1
Paraphimosis.....									2
Bubo, gonorrhœal.....	2		2		1			1	2
Epididymitis.....	12		12	9	2			1	5
Condyloma.....	3		3	1	2				4
Gleet.....									13
Urethritis.....	2		2	1	1				
Organic stricture of the urethra.....	14	1	13	7	6	1			11
Urinary fistula.....	1		1		1				
Inflammation of the penis.....									9
DISEASES OF THE GENERATIVE SYSTEM.....	21	1	20	16	4			1	21
Varicocele.....									2
Hydrocele of the tunica vaginalis.....									4
Orchitis.....	17		17	13	3			1	10
Spermatorrhœa.....	1	1		1					5
Neuralgia of the testicle.....	2		2	2					
Prolapsus of the uterus.....	1		1		1				
DISEASES OF THE ORGANS OF LOCOMOTION.....	23	4	19	8	8			7	5
Periostitis.....	3	1	2					3	
Nodes.....	2		2		2				
Necrosis.....	6	2	4	2	2			2	1
Acute synovitis.....	3		3	3					
Chronic synovitis.....	2		2	1	1				
Ankylosis.....	2		2		2				1
Caries and necrosis of the spine.....	1		1	1					
Lateral curvature of the spine.....	1	1						1	
Anterior curvature of the spine.....	1		1					1	1
Inflammation of tendons.....	1		1	1					
Adhesion of tendons.....	1		1		1				1
Bunion.....									1
DISEASES OF THE CELLULAR TISSUE.....	25		25	20	3			2	7
Inflammation.....	1		1	1					1
Abscess.....	24		24	19	3			2	6
DISEASES OF THE CUTANEOUS SYSTEM.....	77	6	71	53	19		1	4	90
Erythema.....									3
Intertrigo.....									3
Urticaria.....									1
Prurigo.....									2
Lichen.....									2
Psoriasis.....	1		1	1					4
Herpes.....	1		1	1					4
Pemphigus.....									1
Eczema.....	3		3	3					4

VII.—*Tabular Statement, by Districts, of Diseases and Injuries, &c.*—Continued.

DISTRICT OF THE MISSISSIPPI.

DISEASES.	NUMBER OF CASES.								
	Total treated in hospital.	Remaining under treatment from previous year.	Received during the year.	Discharged.			Died.	Remaining under treatment at the close of year.	Furnished office-relief.
				Recovered.	Improved.	Not improved.			
Local Diseases.									
DISEASES OF CUTANEOUS SYSTEM—Cont'd.									
Ecthyma									5
Acne									1
Frostbite	15		15	11	4				1
Ulcer	42	4	38	26	12		1	3	37
Boil	4		4	4					7
Carbuncle	1		1	1					
Onychia	1		1		1				
Whitlow	6	1	5	5	1				4
Fibro-cellular tumor	1	1							2
Warts	1			1					1
Tinea tonsurans									5
Scabies	2		2		1			1	
Phthiriasis									1
Irritation caused by pediculis vesti- menti									1
Irritation caused by mosquitoes									1
Conditions not Necessarily Associated with General or Local Diseases.									
DEBILITY	2		2		2				62
PARTURITION									1
Poisons	24		24	21	2		1		10
Mercury	1		1	1					
Lead colic									1
Alcohol	19		19	17	2				8
Delirium tremens	3		3	3					1
Nux vomica, strychnia	1		1				1		
Injuries	253	18	235	194	39	2	4	14	113
GENERAL INJURIES	14	1	13	12	2				5
Burns and scalds	13	1	12	12	1				5
Multiple injury	1		1		1				
LOCAL INJURIES	239	17	222	182	37	2	4	14	108
Contusion of head	6		6	4	1			1	
Scalp-wound, bone not exposed	10	1	9	9	1				3
Scalp-wound, bone exposed	3		3	3					2
Contusion of the brain	1		1	1					
Fracture of the vault of the skull	3		3	1	1	1			
Fracture of the base of the skull	1		1				1		
Contusion of the face	3		3	2	1				1
Wound of the face	8		8	7	1				3
Fracture of the lower jaw	2		2	1	1				
Contusion of the eye	1		1	1					2
Foreign body in the cornea									2
Foreign body in conjunctiva									2
Wound of the cornea	1	1		1					
Wound of the eyeball	1		1		1				
Contusion of the soft parts of the neck	1		1					1	
Wound of the neck	1		1	1					
Contusion of the chest	4	1	3	4					5
Fracture of the ribs	6	2	4	6					
Penetrating wound of the pleura or lung	1		1	1					4
Contusion of the back	14		14	10	3	1			4
Wound of the back	4	1	3	4					1
Sprain of back	7		7	7					1

VII.—*Tabular Statement, by Districts, of Diseases and Injuries, &c.—Continued.*

DISTRICT OF THE MISSISSIPPI.

DISEASES.	NUMBER OF CASES.								
	Total treated in hospital.	Remaining under treatment from previous year.	Received during the year.	Discharged.			Died.	Remaining under treatment at the close of year.	Furnished office-relief.
				Recovered.	Improved.	Not improved.			
Injuries.									
LOCAL INJURIES—Continued.									
Contusion of the abdomen.....	1		1		1				
Wound of the parietes.....	4		4	3			1		
Wound of the male perineum.....	1		1				a 1		1
Fracture and dislocation of the pelvis.....	1		1	1					1
Contusion of the upper extremities.....	9	2	7	9					11
Sprain of shoulder.....	3	1	2	3					2
Sprain of wrist.....	3		3	3					5
Wound of the upper extremities.....	26		26	19	3			4	26
Wound of the radial artery.....	1		1	1					
Fracture of the clavicle.....	3		3	2	1				
Fracture of the forearm.....	6	1	5	5	1				2
Fracture of the carpus, metacarpus, } and phalanges.....	8		8	5	3				
Dislocation of the shoulder.....	5		5	2				3	
Dislocation of the elbow.....	3		3	2				1	
Dislocation of the thumb.....	1		1	1					
Dislocation of the phalangeal joints.....									1
Contusion of the lower extremities.....	15		15	11	3			1	10
Sprain of the hip.....	2	1	1		2				
Sprain of the knee.....	1		1	1					2
Sprain of the ankle.....	22	1	21	17	5				4
Sprain of tarsal joint.....	1		1	1				1	1
Wound of the lower extremities.....	27	1	26	19	7			1	6
Wound of joint.....	1		1	1					
Fracture of the femur.....	6	2	4	4			1	1	
Fracture of the leg, both bones.....	3		3	2	1				
Fracture of the tibia alone.....	4	1	3	3				1	
Fracture of the bones of the foot.....	2	1	1	2					
Amputation of leg <i>b</i>	1		1	1					
Amputation of both legs <i>c</i>	1		1	1					

DISTRICT OF THE GREAT LAKES.

TOTAL CASES.....	1771	129	1642	1060	514	31	56	110	3768
General Diseases.....	886	60	826	480	317	14	23	52	1504
Cow-pox.....									1
Measles.....	1		1	1					
Enteric fever.....	40	3	37	31	1	1	6	1	1
Simple continued fever.....	3		3	3					4
Febricula.....	5		5	4	1				7
Ague—Quotidian.....	47	2	45	44	1	1		1	66
Tertian.....	38	2	36	36	1			1	63
Quartan.....	1		1	1					
Irregular.....	6	1	5	5				1	24
Remittent fever.....	97	7	90	80	5	1	5	6	38
Malarial cachexia.....									40
Simple cholera.....	1		1	1					2
Diphtheria.....	1		1				1		
Mumps.....	4		4	4					4
Influenza.....									6
Erysipelas—Simple.....	9		9	9					4
Phlegmonous.....	5	2	3	4	1				
Pyæmia.....	1		1				1		
Acute rheumatism.....	52	7	45	38	10	1		3	22
Sub-acute rheumatism.....	6		6	4	1			1	11
Gonorrhœal rheumatism.....	4	1	3	1	2			1	2
Synovial rheumatism.....	2		2	2					2

a Died from inhalation of chloroform.*b* Operation performed prior to admission.*c* Operation performed 17 days prior to admission.

VII.—*Tabular Statement, by Districts, of Diseases and Injuries, &c.—Continued.*

DISTRICT OF THE GREAT LAKES.

DISEASES.	NUMBER OF CASES.							
	Total treated in hospital.	Remaining under treatment from previous year.	Received during the year.	Recovered.	Improved.	Not improved.	Died.	Remaining under treatment at the close of year.
General Diseases.								
Muscular rheumatism	45	2	43	33	10			135
Chronic rheumatism	50	3	47	11	35	2		136
Primary syphilis—Hard chancre	61	5	56	8	52			108
Indurated bubo	12	1	11	5	3	1		10
Soft chancre	172	6	166	123	41	1		242
Suppurating bubo	25		25	14	9			25
Phagedænic sore	1		1	1				
Secondary syphilis	128	12	116	12	107	2	1	473
Syphilitic iritis	1		1	1				
Cancer of the stomach	2		2				2	
Medullary cancer	1		1					1
Epithelial cancer	2		2	2				
Colloid								
Scrofula								2
Scrofulous disease of glands								9
Phthisis pulmonalis	57	6	51		34	4	7	1
Hæmoptysis	3		3	2	1			62
Diabetes	1		1		1			1
Purpura	1		1					1
Anæmia								2
General dropsy	1		1		1			1
Local Diseases	588	38	550	360	151	14	25	38
DISEASES OF THE NERVOUS SYSTEM.	34	2	32	20	8	2	1	3
Inflammation of the brain	1	1					1	
Apoplexy			1					1
Sunstroke	3		3	3				
White softening of the brain								1
Inflammation of the nerves								2
Neuroma	1		1		1			
Paralysis								1
Hemiplegia	2	1	1		1			1
Paraplegia	1		1	1				
Locomotor ataxy								1
Local paralysis	4		4		4			6
Facial paralysis								2
Epilepsy	2		2	1				1
Epileptic vertigo								2
Neuralgia	2		2	2				13
Facial	4		4	3	1			6
Brow ague								9
Sciatica	7		7	6	1			11
Pleurodynia	3		3	3				11
Irritable stump	1		1	1				
Irritable cicatrix								1
Hyperæsthesia								2
Mania—Chronic	1		1			a 1		
Dementia	1		1			1		
DISEASES OF THE EYE.	19	2	17	10	7	1		1
Conjunctivitis	7		7	5	1	1		36
Catarhal ophthalmia	1		1		1			22
Purulent ophthalmia								3
Gonorrhæal ophthalmia	5	2	3	3	2			1
Keratitis	1		1	1				
Ulcer of the cornea								1
Conical cornea	1		1		1			
Iritis	2		2	1				1
Anisotropia	1		1		1			3
Lachrymal obstruction								2
Inflammation of the eyelid								1
Ectropium	1		1		1			

a Transferred to Government Hospital for the Insane at Washington, D. C.

VII.—*Tabular Statement, by Districts, of Diseases and Injuries, &c.—Continued.*

DISTRICT OF THE GREAT LAKES.

DISEASES.	NUMBER OF CASES.								
	Total treated in hospital.	Remaining under treatment from previous year.	Received during the year.	Discharged.			Died.	Remaining under treatment at the close of year.	Furnished office-relief.
				Recovered.	Improved.	Not improved.			
Local Diseases.									
DISEASES OF THE EAR.....	5	1	4	3	.....	1	.....	1	13
Inflammation of the external meatus.....	.....	.....	.....	.....	.....	.....	.....	.....	1
Accumulation of wax.....	.....	.....	.....	.....	.....	.....	.....	.....	4
Inflammation of the membrana tympani.....	3	1	2	3	.....	.....	.....	.....	7
Disease of the mastoid cells.....	1	.....	1	.....	.....	.....	.....	1	.....
Deafness.....	1	.....	1	.....	.....	1	.....	.....	1
DISEASES OF THE NOSE.....	1	.....	1	.....	1	.....	.....	.....	1
Ozæna.....	1	.....	1	.....	1	.....	.....	.....	.....
Polypus nasi.....	.....	.....	.....	.....	.....	.....	.....	.....	1
DISEASES OF THE CIRCULATORY SYSTEM...	17	1	16	1	9	4	3	.....	58
Pericarditis.....	1	.....	1	1	.....	.....	.....	.....	.....
Valve-disease.....	10	.....	10	.....	6	1	3	.....	19
Angina pectoris.....	1	.....	1	.....	1	.....	.....	.....	.....
Palpitation and irregular action of heart.....	.....	.....	.....	.....	.....	.....	.....	.....	35
Aneurism of the arteries.....	4	1	3	.....	2	2	.....	.....	1
Varicose veins.....	1	.....	1	.....	.....	1	.....	.....	3
DISEASES OF THE ABSORBENT SYSTEM.....	6	.....	6	1	3	.....	.....	2	13
Inflammation of lymphatics.....	1	.....	1	.....	.....	.....	.....	1	1
Inflammation of glands.....	4	.....	4	.....	3	.....	.....	1	11
Chronic enlargement of glands.....	.....	.....	.....	.....	.....	.....	.....	.....	1
Lymphatic fistula.....	1	.....	1	1	.....	.....	.....	.....	.....
DISEASES OF THE RESPIRATORY SYSTEM..	103	8	95	61	24	3	10	5	463
Coryza.....	.....	.....	.....	.....	.....	.....	.....	.....	23
Laryngitis—Acute.....	.....	.....	.....	.....	.....	.....	.....	.....	9
Chronic.....	1	.....	1	.....	1	.....	.....	.....	1
Bronchial catarrh.....	.....	.....	.....	.....	.....	.....	.....	.....	8
Bronchitis—Acute.....	50	4	46	40	6	1	.....	3	169
Chronic.....	14	2	12	1	12	.....	1	.....	225
Asthma.....	3	.....	3	1	2	.....	.....	.....	11
Pneumonia.....	19	1	18	12	1	.....	4	2	5
Abscess of the lung.....	1	.....	1	.....	.....	.....	1	.....	.....
Hæmoptysis.....	2	.....	2	.....	.....	.....	2	.....	2
Chronic pneumonic phthisis.....	5	1	4	.....	2	2	1	.....	4
Pleurisy.....	9	.....	9	7	1	.....	1	.....	5
Chronic pleurisy.....	.....	.....	.....	.....	.....	.....	.....	.....	1
DISEASES OF THE DIGESTIVE SYSTEM.....	124	6	118	83	30	2	3	6	370
Stomatitis.....	1	.....	1	1	.....	.....	.....	.....	1
Abscess of the cheek.....	2	.....	2	2	.....	.....	.....	.....	.....
Caries of the dental tissue.....	.....	.....	.....	.....	.....	.....	.....	.....	1
Relaxed throat.....	.....	.....	.....	.....	.....	.....	.....	.....	1
Ulcerated throat.....	1	.....	1	.....	1	.....	.....	.....	3
Quinsy.....	2	.....	2	2	.....	.....	.....	.....	4
Tonsillitis.....	10	.....	10	10	.....	.....	.....	.....	11
Pharyngitis.....	3	1	2	2	1	.....	.....	.....	22
Gastritis.....	5	.....	5	1	2	.....	1	1	4
Chronic ulcer of the stomach.....	1	1	.....	.....	1	.....	.....	.....	.....
Hæmatemesis.....	1	.....	1	1	.....	.....	.....	.....	.....
Dyspepsia.....	14	.....	14	4	10	.....	.....	.....	103
Gastrodynia.....	.....	.....	.....	.....	.....	.....	.....	.....	3
Enteritis.....	1	.....	1	.....	.....	.....	.....	1	1
Typhlitis.....	1	.....	1	.....	.....	.....	.....	1	.....
Dysentery.....	21	1	20	18	2	.....	.....	1	8
Ulceration of the intestines.....	2	.....	2	.....	2	.....	.....	.....	1
Hernia.....	5	.....	5	3	.....	2	.....	.....	19
Tænia solium.....	.....	.....	.....	.....	.....	.....	.....	.....	2
Diarrhœa.....	25	2	23	21	3	.....	1	.....	78
Colic.....	3	.....	3	3	.....	.....	.....	.....	2
Constipation.....	1	.....	1	1	.....	.....	.....	.....	55
Abscess of the rectum and anus.....	1	.....	1	.....	1	.....	.....	.....	1

VII. —*Tabular Statement, by Districts, of Diseases and Injuries, &c.*—Continued.

DISTRICT OF THE GREAT LAKES.

DISEASES.	NUMBER OF CASES.								
	Total treated in hospital.	Remaining under treatment from previous year.	Received during the year.	Discharged.			Died.	Remaining under treatment at the close of year.	Furnished office-relief.
				Recovered.	Improved.	Not improved.			
Local Diseases.									
DISEASES OF DIGESTIVE SYSTEM—Cont'd.									
Fistula in ano.....	1		1	1					
Hæmorrhoids.....	9		9	4	5				29
Hæmorrhage from the rectum.....	1		1		1				
Stricture of the rectum and anus.....	1		1					1	
Condyloma of the anus.....									1
Pruritis ani.....									1
Hepatitis.....	5	1	4	4	1				3
Acute atrophy of the liver.....									1
Simple enlargement of the liver.....	1		1					1	3
Jaundice.....	3		3	3					1
Splenitis.....	1		1	1					
Peritonitis.....	2		2	1			1		
Ascites.....									1
DISEASES OF THE URINARY SYSTEM.....									
Acute Bright's disease.....	1		1		1				8
Chronic Bright's disease.....	10	1	9		8		2		7
Pyelitis.....	2		2	2					1
Cystitis—Acute.....	6		6	4				2	19
Chronic.....	5		5	1	2		1	1	24
Hæmaturia vesical.....	2	1	1	1	1				3
Irritability of the bladder.....	1		1	1					1
Incontinence of urine.....									1
Retention of urine.....	1		1	1					2
Inflammation of the prostate gland.....	2		2	2					1
Gonorrhœa.....	15	1	14	9	5			1	423
Balanitis.....									9
Phimosis.....	4		4	3	1				1
Paraphimosis.....	2		2	2					
Bubo, gonorrhœal.....	1	1		1					3
Epididymitis.....	27	2	25	18	3			6	17
Condyloma.....									1
Gleet.....									98
Urethritis.....									1
Organic stricture of the urethra.....	29	1	28	12	12	1	3	1	32
Urinary fistula.....									2
Abscess of the penis.....									1
Non-malignant tumor of the penis.....									2
DISEASES OF THE GENERATIVE SYSTEM.....									
Hydrocele of the cord.....	26		26	17	9				66
Varicocele.....									1
Hydrocele of the tunica vaginalis.....	2		2	1	1				8
Orchitis.....	20		20	14	6				5
Spermatorrhœa.....	1		1	1					25
Inflammation of the uterus.....	1		1		1				24
Amenorrhœa.....									1
Dysmenorrhœa.....	1		1	1					2
Hysteralgia.....	1		1		1				
DISEASES OF THE ORGANS OF LOCOMOTION.....									
Periostitis.....	30	4	26	17	8		1	4	11
Caries.....	1		1		1				1
Necrosis.....	2	1	1	2					
Acute synovitis.....	9	1	8	3	4			2	
Chronic synovitis.....	8	1	7	6	1			1	4
Ankylosis.....	3		3	1	1				2
Caries and necrosis of the spine.....	2		2	1	1				1
Abscess of the muscles.....	1	1					1		
Atrophy of the muscles.....	2		2	2					
Exhaustion of the muscles.....									1
Wry-neck.....	1		1	1					
Enlarged bursa patellæ.....	1		1	1					1

VII.—*Tabular Statement, by Districts, of Diseases and Injuries, &c.—Continued.*

DISTRICT OF THE GREAT LAKES.

DISEASES.	NUMBER OF CASES.								
	Total treated in hospital.	Remaining under treatment from previous year.	Received during the year.	Discharged.			Died.	Remaining under treatment at the close of year.	Furnished office-relief.
				Recovered.	Improved.	Not improved.			
Local Diseases.									
DISEASES OF THE CELLULAR TISSUE.....	31		31	26	3		1	1	30
Inflammation	9		9	6	2		<i>a</i> 1		4
Abscess	21		21	20				1	26
Hæmorrhage into the cellular tissue	1		1		1				
DISEASES OF THE CUTANEOUS SYSTEM.....	84	7	77	64	16			4	166
Erythema									2
Urticaria									3
Prurigo									3
Lichen									5
Psoriasis	1		1	1					10
Herpes	1	1		1					8
Eczema	3		3	2				1	31
Acne									5
Sycosis	1		1	1					3
Chilblain									1
Frostbite	14		14	14					2
Ulcer	24	1	23	14	10				42
Boil	7		7	5	2				19
Carbuncle	2		2	1	1				3
Whitlow	30	5	25	24	3			3	15
Fibro-cellular tumor									2
Hypertrophy									1
Fatty tumor									1
Sebaceous tumor									1
Warts									1
Pruritus									3
Tinea tonsurans									4
Pthiriasis	1		1	1					1
Conditions not Necessarily Associated with General or Local Diseases.									
DEBILITY	8		8	2	5			1	42
MALINGERY									1
Poisons.....	12		12	11	1				13
Mercury									1
Lead colic	1		1	1					1
Lead palsy									1
Alcohol	6		6	6					10
Delirium tremens	4		4	4					
Rhus toxicodendron	1		1		1				
Undetermined									2
Injuries	277	31	246	204	43	3	8	19	253
GENERAL INJURIES.....	14	1	13	9	2			3	16
Burns and scalds	10	1	9	6	2			2	13
Lightning stroke									1
Multiple injury	4		4	3				1	1
Exposure to cold									1
LOCAL INJURIES.....	263	30	233	195	41	3	8	16	237
Contusion of head	3		3	2	1				
Scalp-wound, bone not exposed	12		12	10	2				10
Scalp-wound, bone exposed									3
Contusion of the brain	2		2	2					
Fracture of the vault of the skull	1		1				1		
Fracture of the base of the skull	1		1				1		
Contusion of the face	3		3	3					

a Died under the influence of chloroform.

VII.—*Tabular Statement, by Districts, of Diseases and Injuries, &c.*—Continued.

DISTRICT OF THE GREAT LAKES.

DISEASES.	NUMBER OF CASES.								
	Total treated in hospital.	Remaining under treatment from previous year.	Received during the year.	Discharged.			Died.	Remaining under treatment at the close of year.	Furnished office-relief.
				Recovered.	Improved.	Not improved.			
Injuries.									
LOCAL INJURIES—Continued.									
Wound of the face.....	7		7	6	1				8
Fracture of the facial bones.....	1		1	1					1
Fracture of the lower jaw.....	1		1	1					1
Contusion of the eye.....	1		1	1					1
Foreign bodies in the cornea.....									3
Wound of the eyelid.....	1		1	1					
Wound of the sclerotic.....	1		1	1					
Wound of the cornea.....	1		1	1					
Contusion of the chest.....	14	3	11	14					13
Fracture of the ribs.....	3		3	2	1				5
Contusion of the back.....	19	3	16	13	3	1	1	1	8
Wound of the back.....									2
Sprain of back.....	3		3	2	1				26
Fracture and dislocation of the spine.....	2	1	1				2		
Injury to the cord without known fracture.....	3		3	1			2		
Wound of the male perineum.....	2		2	2					2
Fracture and dislocation of the pelvis.....	1		1				1		
Contusion of the upper extremities.....	17		17	15	1				15
Sprain of shoulder.....									8
Sprain of elbow.....	2		2	1	1				2
Sprain of wrist.....	9		9	6	1			2	12
Wound of the upper extremities.....	32	2	30	23	8		1		41
Wound of the ulnar artery.....	1		1	1					
Fracture of the clavicle.....	1		1	1					
Fracture of the scapula.....									1
Fracture of the humerus.....	2	1	1	1		1			
Fracture of the forearm.....	14		14	9	2	1		2	7
Fracture of the carpus, metacarpus, and phalanges.....	5	1	4	3	2				5
Ununited fracture of the humerus.....	1		1		1				
Dislocation of the shoulder.....	1		1		1				1
Dislocation of the elbow.....	1		1		1				1
Contusion of the lower extremities.....	28	5	23	22	2			4	13
Sprain of the hip.....									2
Sprain of the knee.....	6	2	4	4	1			1	7
Sprain of the ankle.....	11	1	10	7	3			1	8
Wound of the lower extremities.....	19	4	15	16	2			1	15
Fracture of the femur.....	4		4	3				1	
Fracture of the patella.....	1		1		1				
Fracture of the leg, both bones.....	9	2	7	8	1				4
Fracture of the tibia alone.....	2		2	2					
Fracture of the fibula alone.....	6	3	3	6					
Fracture of the bones of the foot.....	6	2	4	3	3				
Dislocation of the hip.....	1		1					1	
Dislocation of the knee.....	1		1		1				5
Rupture of muscles.....									1
Amputation of fingers.....									3
Amputation of toes.....									1
Tracheotomy.....	1		1	1					

^aThe operation was performed, prior to admission, for œdema of the glottis.

VII.—*Tabular Statement, by Districts, of Diseases and Injuries, &c.—Continued.*

DISTRICT OF THE PACIFIC.

DISEASES.	NUMBER OF CASES.								
	Total treated in hospital.	Remaining under treatment from previous year.	Received during the year.	Discharged.			Died.	Remaining under treatment at the close of year.	Furnished office relief.
				Recovered.	Improved.	Not improved.			
TOTAL CASES	755	60	695	436	213	20	46	40	1032
General Diseases	323	22	301	169	110	5	23	16	420
Small-pox									1
Cow-pox									1
Measles	3		3	3					
Enteric fever	4		4	2			1	1	
Simple continued fever	11		11	8			1	2	
Febricula	1		1	1					
Ague—Quotidian	10		10	9	1				10
Tertian	12	1	11	11	1				20
Irregular	10		10	7	3				31
Remittent fever	4		4	4					1
Erysipelas—Simple									1
Phlegmonous	1		1		1				
Acute rheumatism	27		27	22	2			3	18
Sub-acute rheumatism	2	1	1	2					1
Gonorrhœal rheumatism	5	1	4	3	2				2
Muscular rheumatism	5	1	4	3	2				13
Chronic rheumatism	20	2	18	6	14				54
Primary syphilis—Hard chancre	4		4	2	1			1	
Indurated bubo	3		3	3					3
Soft chancre	33	1	32	24	8	1			66
Suppurating bubo	16	1	15	11	4			1	8
Phagedænic sore	1		1	1					
Secondary syphilis	51	3	48	7	40		1	3	127
Syphilitic iritis	2		2	1	1				3
Syphilitic rupia	1		1	1	1				
Syphilitic rheumatism	3		3	3	2	1			7
Scrofula	1		1		1				
Scrofula with tubercle	1	1					1		
Phthisis pulmonalis	32	9	23		18	3	10	1	37
Hæmoptysis									2
Diabetes	2	1	1				2		
Scurvy	37		37	22	8		3	4	6
Anæmia	2		2	2					2
Beri-beri	19		19	15			4		
Local Diseases	306	31	275	173	89	11	20	13	506
DISEASES OF THE NERVOUS SYSTEM	33	5	28	11	12	2	5	3	29
Inflammation of the brain	1		1				1		
Apoplexy	3		3		1		2		
Hemiplegia	11	4	7		5	1		3	
Paraplegia	1		1		1				
Locomotor ataxy	2	1	1		2				
Facial paralysis	1		1		1				1
Tetanus	1		1		1				1
Epilepsy	1		1		1				1
Neuralgia—Facial									5
Brow ague	3		3	3					7
Sciatica	2		2	2					1
Pleurodynia	6		6	6					11
Hypochondriasis									2
Dementia	1		1			a1			
DISEASES OF THE EYE	10	2	8	4	5		1		12
Conjunctivitis	2	1	1	1	1				3
Gonorrhœal ophthalmia	1		1	1					
Ulcer of the cornea	1		1		1				1
Iritis	2		2	1	1				6
Retinitis	1		1	1					
Glaucoma	1		1		1				
Total disorganization of eye	1	1					b1		

a Sent to California State Hospital for the Insane.

b Cause of death, valve-disease.

VII.—*Tabular Statement, by Districts, of Diseases and Injuries, &c.*—Continued.

DISTRICT OF THE PACIFIC.

DISEASES.	NUMBER OF CASES.								
	Total treated in hospital.	Remaining under treatment from previous year.	Received during the year.	Discharged.			Died.	Remaining under treatment at the close of year.	Furnished office-relief.
				Recovered.	Improved.	Not improved.			
Local Diseases.									
DISEASES OF THE EYE—Continued.									
Short sight									1
Hemeralopia									1
Lachrymal obstruction	1		1		1				
DISEASES OF THE EAR.....									
Inflammation of the external meatus...	2		2		2				9
Accumulation of wax	1		1		1				2
Inflammation of the membrana tympani.									2
Deafness	1		1		1				5
DISEASES OF THE CIRCULATORY SYSTEM...									
Valve-disease	18		18		7	3	7	1	16
Syncope	14		14		7	3	4		9
Palpitation and irregular action of heart.									1
Aneurism of the arteries	4		4				3	1	4
Varicose veins									2
DISEASES OF THE ABSORBENT SYSTEM.....									
Inflammation of lymphatics	6		6	2	4				1
Inflammation of glands	3		3	1	2				1
Suppuration of glands	1		1	1					
Hypertrophy of glands	1		1		1				
Chronic enlargement of glands	1		1		1				
DISEASES OF THE RESPIRATORY SYSTEM...									
Coryza	29		29	19	5	1	2	2	94
Ulceration of the epiglottis	1		1		1				8
Laryngitis—Acute	1		1	1	1				
Chronic	1		1					1	6
Bronchitis—Acute	1		1						1
Chronic	4		4	4					59
Asthma	2		2	1	1				9
Pneumonia	12		12	7	2		2	1	6
Pleurisy	4		4	4					3
Chronic pleurisy	2		2	2					2
Empyema	1		1			1			
DISEASES OF THE DIGESTIVE SYSTEM									
Abcess of the cheek	62	8	54	40	14	1	4	3	101
Caries of the dental tissue									1
Relaxed throat									9
Ulcerated throat	1		1						1
Tonsillitis	3		3	2	1			1	1
Enlarged tonsils	1		1		1				6
Elongated uvula									1
Pharyngitis									1
Stricture of the oesophagus	1		1		1				2
Gastritis	1		1	1					
Hæmatemesis									1
Dyspepsia	6	1	5	4	2				32
Dysentery	8		8	7			1		5
Obstruction, intestinal	1		1	1					
Hernia	3		3	1	1	1			14
Tænia									1
Tænia solium	2		2	2					2
Diarrhoea	10	2	8	8	2				8
Colic	2		2	2					5
Constipation	2		2	2					7
Abcess of the rectum and anus	1		1	1					
Fistula in ano	4	1	3	3	1				
Hæmorrhoids	6	2	4	4	2				2
Condyloma of the anus	2		2	1	1				

VII.—*Tabular Statement, by Districts, of Diseases and Injuries, &c.—Continued.*

DISTRICT OF THE PACIFIC.

DISEASES.	NUMBER OF CASES.								
	Total treated in hospital.	Remaining under treatment from previous year.	Received during the year.	Discharged.			Died.	Remaining under treatment at the close of year.	Furnished office-relief.
				Recovered.	Improved.	Not improved.			
Local Diseases.									
DISEASES OF DIGESTIVE SYSTEM—Cont'd.									
Hepatitis	1	1			1				
Simple enlargement of the liver	2		2		1			1	
Cirrhosis of the liver	1		1					1	
Jaundice									2
Splenitis	2		2	1			1		
Peritonitis	1	1					1		
Ascites	1		1				1		
DISEASES OF THE URINARY SYSTEM.									
Acute Bright's disease	66	6	60	44	19	1		2	150
Chronic Bright's disease	1		1	1					
Cystitis—Acute	2		2		2				
Chronic	2		2	1	1				1
Paralysis of the bladder	2		2		1			1	1
Irritability of the bladder	1		1		1				1
Incontinence of urine									4
Gonorrhœa	21	2	19	14	6			1	101
Phimosis	1		1	1					1
Bubo, gonorrhœal	5		5	4	1				4
Epididymitis	15	2	13	13	2				7
Condyloma									1
Gleet	1		1	1					18
Urethritis									1
Organic stricture of the urethra	15	2	13	9	5	1			6
DISEASES OF THE GENERATIVE SYSTEM.									
Varicocele	19		19	12	7				17
Inflammation of the tunica vaginalis	1		1		1				1
Hydrocele of the tunica vaginalis	2		2	1	1				
Orethritis	3		3	1	2				3
Spermatorrhœa	12		12	9	3				4
Prolapsus of the uterus									8
	1		1	1					1
DISEASES OF THE ORGANS OF LOCOMOTION.									
Periostitis	18	5	13	10	5	1	1	1	11
Caries	2	1	1	1	1				
Necrosis	1			1					
Osseous tumor	2		2	2					3
Acute synovitis	1	1					1		
Chronic synovitis	5	2	3	2	3				4
Ankylosis	2		2	2		1			
Caries and necrosis of the spine	2		2		1			1	
Abscess of the muscles	1		1	1					
Adhesion of tendons									1
Contraction of tendons									1
Bursal tumor									2
DISEASES OF THE CELLULAR TISSUE									
Abscess	15	2	13	13	1			1	8
	15	2	13	13	1			1	8
DISEASES OF THE CUTANEOUS SYSTEM.									
Urticaria	28	3	25	18	8	2			58
Prurigo	1		1	1					1
Pityriasis									1
Psoriasis	1		1		1				
Herpes	2		2	1	1				4
Pemphigus									2
Eczema	4		4	3	1				1
Acne									9
Sycosis									4
Ulcer	15	3	12	9	4	2			7
Boil	1		1	1					15

VII.—*Tabular Statement, by Districts, of Diseases and Injuries, &c.*—Continued.

DISTRICT OF THE PACIFIC.

DISEASES.	NUMBER OF CASES.								
	Total treated in hospital.	Remaining under treatment from previous year.	Received during the year.	Discharged.			Died.	Remaining under treatment at the close of year.	Furnished office-relief.
				Recovered.	Improved.	Not improved.			
Local Diseases.									
DISEASES OF CUTANEOUS SYSTEM—Cont'd.									
Carbuncle									1
Onychia									1
Whitlow	2		2	2					2
Fibro-cellular tumor	1		1		1				
Tinea tonsurans									1
Scabies									2
Irritation caused by pediculus vesti- menti									1
Irritation caused by Sting Ray fish	1		1	1					
Conditions not Necessarily Associated with General or Local Diseases.									
OLD AGE									1
DEBILITY	2		2	1				1	1
MALINGERY	2		2			2			8
Poisons.	9		9	6	1	1	1		8
Iodine	1		1	1					
Alcohol	8		8	5	1	1	1		5
Tobacco									3
Undetermined	3		3	1		1		1	7
Injuries	110	7	103	86	11	2	2	9	81
GENERAL INJURIES.	3		3	3					2
Burns and scalds	2		2	2					2
Multiple injury	1		1	1					
LOCAL INJURIES	107	7	100	83	11	2	2	9	79
Contusion of head	1		1		1				4
Scalp-wound, bone not exposed	1		1	1					
Scalp-wound, bone exposed	1		1					1	
Contusion of the brain	2		2	1			1		
Wound of the face									1
Fracture of the lower jaw	2	1	1	2					
Contusion of the eye									4
Fracture of the hyoid bone and carti- lages of the larynx	1		1				1		
Contusion of the chest	1		1	1					5
Fracture of the ribs	1		1	1					1
Perforating wound of the chest	1		1	1					
Contusion of the back	8		8	5	2			1	8
Sprain of back	5		5	5					3
Contusion of the abdomen									1
Wound of the anus	1		1	1					
Contusion of the upper extremities	7	1	6	7					8
Sprain of shoulder									1
Sprain of elbow	1		1	1					
Sprain of wrist	2		2	2					2
Wound of the upper extremities	10	1	9	8	1			1	11
Fracture of the clavicle	1		1	1					
Fracture of the humerus	1		1	1					
Fracture of the forearm	2		2	1				1	1
Fracture of the carpus, metacarpus, and phalanges	2		2	2					2
Dislocation of the shoulder	1	1			1				
Dislocation of the elbow	1		1	1					
Dislocation of the wrist and carpus	1		1		1				

VII.—*Tabular Statement, by Districts, of Diseases and Injuries, &c.*—Continued.

DISTRICT OF THE PACIFIC.

DISEASES.	NUMBER OF CASES.								
	Total treated in hospital.	Remaining under treatment from previous year.	Received during the year.	Discharged.			Died.	Remaining under treatment at the close of year.	Furnished office-relief.
				Recovered.	Improved.	Not improved.			
Injuries.									
LOCAL INJURIES—Continued.									
Dislocation of the thumb	1		1	1					
Contusion of the lower extremities	25		25	21	3			1	16
Sprain of the hip	2	1	1	2					
Sprain of the knee	1		1	1					
Sprain of the ankle	4	1	3	3	1				4
Wound of the lower extremities	7		7	7					5
Fracture of the femur	5		5	2	1	2			1
Fracture of the leg, both bones	3	1	2	1				2	
Fracture of the fibula alone	4		4	2				2	1
Dislocation of the foot at the ankle	1		1	1					

Table VIII.—*Tabular Statement, by Districts, of Causes of Mortality among Patients of the Service during the Year ended June 30, 1881.*

CAUSE OF DEATH.	Total.	DISTRICTS.							
		North Atlantic.	Middle Atlantic.	South Atlantic.	The Gulf.	The Ohio.	The Mississippi.	The Great Lakes.	The Pacific.
Total Deaths from all Causes.....	455	28	65	61	74	58	67	56	46
FROM DISEASE.....	420	28	60	56	69	54	62	48	43
FROM POISON.....	5		1		2		1		1
FROM INJURY.....	30		4	5	3	4	4	8	2
General Diseases.....	210	11	32	29	34	36	23	23	22
Small-pox.....	18		2	6	1	8	1		
Typhus-fever.....	1			1					
Cerebro-spinal fever.....	6			1		2	3		
Enteric-fever.....	35	3	9	3	1	9	3	6	1
Yellow-fever.....	1		1						
Quotidian ague.....	1			1					
Remittent-fever.....	38	2	3	6	11	6	5	5	
Simple cholera.....	1					1			
Diphtheria.....	1							1	
Erysipelas, diffuse inflammation.....	1			1					
Pyæmia.....	2				1			1	
Secondary syphilis.....	8		1	3	1	1		1	1
Scirrhus cancer.....	7	1	1	3				2	
Scrofula with tubercle.....	1								1
Phthisis pulmonalis.....	77	5	14	4	17	9	11	7	10
Acute miliary tuberculosis.....	1				1				
Tubercular laryngitis.....	1		1						
Diabetes.....	2								2
Scurvy.....	3								3
Anæmia.....	1				1				
Beri-beri.....	4								4
Local Diseases.....	210	17	28	27	35	18	40	25	20
DISEASES OF THE NERVOUS SYSTEM.....	33	3	4	6	6	4	4	1	5
Meningitis.....	6	1	2	1		1	1		
Congestion of the brain.....	1				1				
Inflammation of the brain.....	3					1		1	1
Apoplexy.....	6	2		1	1				2
Stroke.....	3				1	1	1		
Fatty and calcareous degeneration of } the cerebral arteries.....	1		1						
Paralysis.....	1				1				
Hemiplegia.....	5			1	1		1		2
Locomotor ataxy.....	1					1			
Epilepsy.....	1			1					
Chronic mania.....	1		1						
Melancholia.....	1			1					
Dementia.....	3			1	1		1		
DISEASES OF THE CIRCULATORY SYSTEM.....	32	3	8		3	1	6	3	8
Valve disease of the heart.....	25	2	7		2	1	5	3	5
Hypertrophy of the heart.....	1				1				
Aneurism of the arteries.....	6	1	1				1		3
DISEASES OF THE DUCTLESS GLANDS.....	1				1				
Addison's disease.....	1				1				
DISEASES OF THE RESPIRATORY SYSTEM.....	81	6	8	14	16	8	16	10	3
Edema of the glottis.....	2		1		1				
Acute bronchitis.....	5		1	1	1		2		
Chronic bronchitis.....	8	1	2	3			1	1	
Pneumonia.....	47	4	3	6	8	7	12	4	3
Abscess of the lung.....	1							1	
Hæmoptysis.....	2							2	
Edema of the lung.....	2			2					
Acute pneumonic phthisis.....	5	1		1	3				
Chronic pneumonic phthisis.....	3				2			1	
Pleurisy.....	5		1	1		1	1	1	
Chronic pleurisy.....	1								

VIII.—*Tabular Statement, by Districts, of Causes of Mortality, &c.*—Continued.

CAUSE OF DEATH.	Total.	DISTRICTS.							
		North Atlantic.	Middle Atlantic.	South Atlantic.	The Gulf.	The Ohio.	The Mississippi.	The Great Lakes.	The Pacific.
Local Diseases.									
DISEASES OF THE DIGESTIVE SYSTEM.....	37	2	3	3	8	3	11	3	4
Gastritis.....	1							1	
Chronic ulcer of the stomach.....	1		1						
Perforation of the stomach.....	1	1							
Enteritis.....	1					1			
Dysentery.....	13			1	3	2	6		1
Diarrhœa.....	12	1	2	1	3		4	1	
Ulceration of the rectum.....	1				1				
Hepatitis.....	1				1				
Cirrhosis of the liver.....	2			1	1		1		
Splenitis.....	1								1
Peritonitis.....	2							1	1
Ascites.....	1								1
DISEASES OF THE URINARY SYSTEM.....	20	3	3	4	1	1	2	6	
Acute Bright's disease.....	3			2	1				
Chronic Bright's disease.....	8	2		2			2	2	
Granular kidney.....	1	1							
Abscess of the kidney.....	1					1			
Chronic cystitis.....	3		2					1	
Stricture of the urethra.....	3							3	
Gangrene of the penis.....	1		1						
DISEASES OF THE ORGANS OF LOCOMOTION.....	5		2			1		1	1
Necrosis.....	1		1						
Ossous tumor.....	1								1
Ankylosis.....	1		1						
Caries and necrosis of the spine.....	2					1		1	
DISEASES OF THE CELLULAR TISSUE.....	1							1	
Inflammation of the cellular tissue.....	1							1	
Poisons.....	5		1		2		1		1
Alcohol.....	1								1
Delirium tremens.....	3		1		2				
Strychnia.....	1						1		
Injuries.....	30		4	5	3	4	4	8	2
GENERAL INJURIES.....	6		1	2	1	2			
Burns and scalds.....	3			1		2			
Multiple injury.....	3		1	1	1				
LOCAL INJURIES.....	24		3	3	2	2	4	8	2
Concussion of the brain.....	1								1
Fracture of the vault of the skull.....	2		1					1	
Fracture of the base of the skull.....	3			1			1	1	
Fracture of the hyoid bone and carti- } lage of the larynx.....	1								1
Contusion of the chest.....	2			1		1			
Perforating wound of the chest.....	1		1						
Contusion of the back.....	1							1	
Wound of the back.....	1					1			
Fracture and dislocation of the spine.....	3				1			2	
Injury to the cord, without known } fracture.....	3		1					2	
Wound of the parietes.....	1						1		
Wound of the male perineum.....	1						1		
Wound of the upper extremities.....	2				1			1	
Fracture of the femur.....	1						1		
Fracture of the leg, both bones.....	1			1					

Table IX.—*Ratio of Deaths from Specific Causes.*

Deaths from—	Per 100 from all causes.	Deaths from—	Per 100 from all causes.
General Diseases.....	46.15	Diseases of the Digestive System....	8.13
Diseases of the Nervous System.....	7.25	Diseases of the Urinary System....	4.40
Diseases of the Circulatory System....	7.03	Injuries.....	6.60
Diseases of the Respiratory System....	17.80	From all other causes.....	2.64

Table X.—*Ratio of Deaths in each District.*

District.	Per 100 of patients treated.	District.	Per 100 of patients treated.
North Atlantic.....	2.84	The Ohio.....	4.38
Middle Atlantic.....	3.63	The Mississippi.....	3.29
South Atlantic.....	3.22	The Great Lakes.....	3.16
The Gulf.....	3.94	The Pacific.....	6.09

REPORT OF SURGICAL OPERATIONS.

REPORT OF SURGICAL OPERATIONS.

SURGICAL OPERATIONS.

FISCAL YEAR 1880-'81.

Operation.	No. of cases.	Remarks.
Total Number of Operations	338	
OPERATIONS OF THE EYE AND ITS APPENDAGES.	11	
For ectropium.....	1	Successful.
For sebaceous cyst of eyelid.....	1	Do.
For strabismus.....	1	Do.
For pterygium.....	5	Do.
Artificial pupil.....	1	For occlusion of pupil—sequela of iritis; not successful.
Excision of eyeball.....	2	For irido-choroiditis, 1; loss of eye from injury, 1.
OPERATIONS ON ARTERIES:		
Ligation of external iliac.....	1	For femoral aneurism; successful.
OPERATIONS ON VEINS:		
For hæmorrhoids.....	20	Thirteen by ligature, five by injection of carbolic acid, one ecraseur, one clamp and canterry.
OPERATIONS ON BONES	17	
For fracture of skull.....	3	Two trephined—one recovered, one died; one Hey's saw and elevated, recovered.
For caries inferior maxilla.....	2	One recovered, one relieved.
For caries clavicle and scapula.....	1	Removed extremity* of clavicle and coracoid process, and one-third upper border of scapula; successful.
For necrosis of tibia.....	1	Successful.
For necrosis of femur.....	3	One recovered, one relieved, one in hospital.
For necrosis of metatarsal.....	4	Three recovered, one relieved.
For ununited fracture of humerus.....	1	Recovered.
For ununited fracture of tibia.....	1	Scraping; successful.
	1	Drilling; not successful.
AMPUTATIONS	49	
Of the arm.....	1a	For medullary tumor forearm; amputation middle third of humerus; successful.
Of the hand.....	2	Primary; both successful.
Of the fingers—		
For deformity.....	2	Ankylosis of joint.
For disease.....	5	
For frost-bite.....	10	
For injury.....	11	
Of the thigh.....	2	One compound fracture lower third femur; circular amputation middle third; recovered, 1.
Of the leg.....	1	Compound fracture foot; circular amputation lower third, not successful; second operation, middle third, successful.
Of both feet.....	1	For frost-bite of feet.
Of both toes—		
For disease.....	2	
For frost-bite.....	6	
For injury.....	6	Two primary.
REMOVAL OF TUMORS	22	
Nature of tumor—		
Epithelial cancer.....	3	"V" incision.
Colloid.....	1	Excision.
Fibrous.....	1	Do.
Fibrocytic.....	2	Do.
Fibro-cellular.....	2	Do.
Oseous.....	1	Do.
Sebaceous.....	2	Do.
Cheloid.....	1	Do.
Cystic.....	6	Do.
Fatty.....	2	Do.
Cystic disease of testicle.....	1	Castration.

a Operation performed fiscal year 1880.

Surgical Operations—Continued.

Operation.	No. of cases.	Remarks.
REMOVAL OF FOREIGN BODIES	5	
Gunshot wound—		
Of scalp	1	Ball removed.
Of arm	1	Do.
Of hand	1	Do.
Of leg	2	Do.
INCISIONS	105	
For fistula in ano	12	
For perineo-scrotal fistula	1	
For perineal fistula	1	
For laryngeal fistula	1	
Perineal section	1	For chronic cystitis.
For stricture urethra—		
External urethrotomy	2	Both cases died.
Internal urethrotomy	9	Urethral fever in five cases.
Divulsion	35	Urethral fever in eleven cases.
Dilatation	42	Urethral fever in five cases.
For wry-neck	1	Tenotomy clavicular attachment sterno-mastoid muscle.
REPARATIVE OPERATIONS	91	
For phimosis—		
Circumcision	72	One death from erysipelas.
Prepuce slit up	19	
NOT CLASSIFIED	38	
Paracentesis thoracic	8	Two cases empyema.
Abdominal	2	
Vesical above pubes	2	
Of hydrocele	20	In eight cases tr. iodine was injected; in one case packed with lint.
Knee-joint	1	
Hernia	5	Four Heaton's operation; three successful, one partially successful.

CASE OF COMPOUND FRACTURE OF THE SKULL, WITH ELEVATION OF THE FRAGMENTS.

BY SURGEON GEORGE PURVIANCE.

J. A., aged 28; admitted to the United States Marine Hospital, at 9 o'clock P. M., February 13, 1881, suffering from a compound comminuted fracture of the skull in the lower part of parietal and the upper part of temporal bone.

I saw him soon after his admission to hospital, about ten hours after he had received the injury. I learned from the captain of the steamboat "Charles Jutte" that he had fallen into the bucket of the wheel, and, from the character of the wound, I think, struck a spike or some sharp object.

I found on examination, a scalp wound large enough to admit three fingers, and on introducing my finger I could get it between the membranes and the fragments of bone, which were raised at one point three-quarters of an inch. The membranes were uninjured.

The patient, when I first saw him, was suffering from shock, and, as there was no evidence of any compression of the brain, I deemed it best not to interfere in a surgical way until the next morning. In the meantime I gave him one gram of bromide of potassium every three hours, ordered stimulants, and directed the nurse to apply cloths wrung out of cold water to the wound.

The next morning (14th) I found my patient somewhat recovered from the shock of the injury, so I gave him an anæsthetic, enlarged the scalp wound by an incision, and removed one piece of bone which measured four and one-quarter ($4\frac{1}{4}$) inches in length by two and a half ($2\frac{1}{2}$) inches in width; another piece, which measured one and a half inches in length by one inch in width; and also a number of small fragments. (See Fig. 1.) After thoroughly cleansing the wound, I closed



FIG. 1.

it by silver sutures, applied cold-water dressing, continued the bromide of potassium every three hours, and gave him beef-tea and milk.

15th, saw my patient early; found him restless and delirious; pulse, 96; temperature, 39° C.; learned from the nurse that he had been so all night, although he had taken one gram of bromide of potassium every three hours. I then gave him morphia sulph., .016 gm. He soon went to sleep, and slept three hours.

At 6 P. M. found he had rested comfortably since morning. Continued the morphia with the bromide; took very little nourishment; gave him six grains of calomel.

16th, 9 o'clock P. M., pulse, 104; temperature, 39° C.; rested well during the night; bowels well moved; some delirium, but at intervals quite rational.

Saw him at 6 P. M.; pulse, 110; temperature, 39.5°; resting well; breathing a little stertorous; had taken very little nourishment during the day. Saw him again at 10 P. M.; pulse, 100; temperature, 39°; in other respects about the same as at the previous visit.

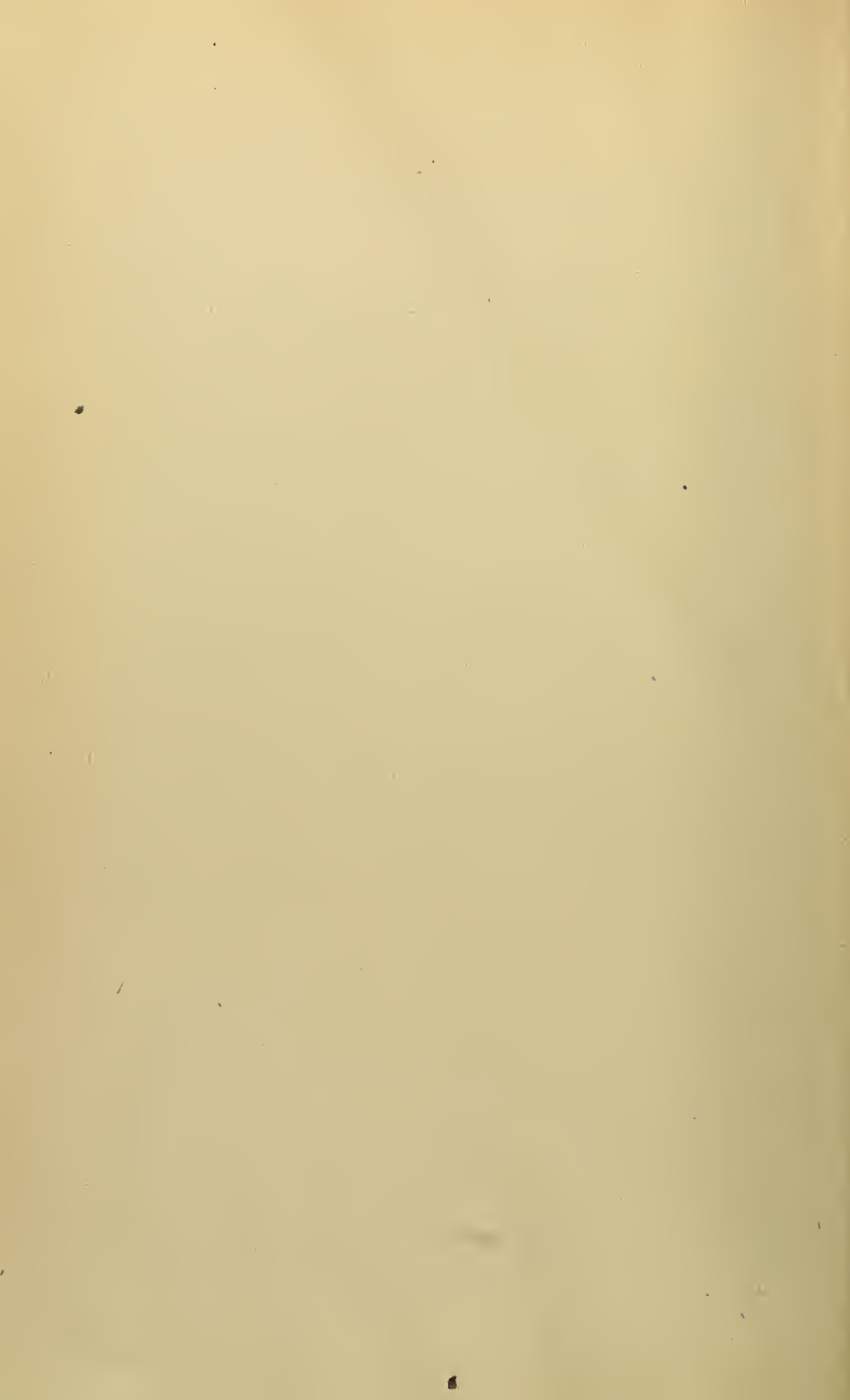
February 17, 9 A. M., pulse, 100; temperature, 38.6°; general condition improved; slept very well; breathing still a little stertorous; did not take any morphia during the night. For the first time he asked for something to eat; ordered milk and oyster-soup for him.

5 P. M., pulse, 98; temperature, 38.3°; in other respects about the same as at my morning visit.

18th, 9 A. M., pulse, 95; temperature, 37.7°; other symptoms good; slept well during the night; took out the sutures, and had very little union by first intention; dressed the wound with carbolized oil. This case continued to improve from this date; the wound healed kindly by granulation, and I discharged him from the hospital entirely well on the 9th day of April, 1881, since which time I have seen him several times, and he is perfectly well.

This elevated condition of the bones in fractures of the skull I consider very rare. It has never come under my observation before, and in all the literature I have been able to find on the subject of fractures of the skull I have been unable to find a case of it described. The specimen is preserved.

REPORTS OF FATAL CASES, WITH AUTOPSIES.



REPORTS OF FATAL CASES, WITH AUTOPSIES.

[COMPILED FROM THE REPORTS OF MEDICAL OFFICERS AND HOSPITAL RECORDS.]

However much may be written upon the subject of theoretical medicine and surgery, the records of cases and of *post-mortem* appearances are ever new and instructive to the practitioner. The considerable amount of such information, heretofore buried in the records of the different hospitals, has induced its incorporation in the pages of this report.

ENTERIC FEVER.

W. L., (colored,) aged 20 years; nativity, Kentucky.

Clinical history.—Admitted to the Marine Hospital, Louisville, Ky., November 4, 1880. He said that he had had diarrhœa for ten days, and fever every day. Temperature at 10 A. M. 39° C., and 40° at 5 P. M. Tongue dry and brown in centre with red edges; pulse 120; great tenderness over abdomen. Diagnosis: Enteric fever. His diarrhœa was checked on the 6th. His temperature was 39° in the morning, and 39.5° in the afternoon of the 5th. On the 6th his temperature was 40° at 8 A. M., and 41.5° at 4 P. M. Some tympanitis and slight delirium. On the 7th his delirium was violent, and great pain complained of in his head. Tongue very dry and fissured. Sordes on teeth. Temperature 41° at 8 A. M., and 42° at 4 P. M. Pulse 130; quick and jerking systolic movement of heart. Bowels moved eight or ten times; profuse yellowish discharges. On the 8th his condition was much the same except he complained less of pain in his head, and delirium less violent. On the 9th his temperature was 41° at 8 A. M., and 42° at 6 P. M. Bowels very loose, and movements involuntary. He lies in a semi-comatose condition. The coma became profound during the night, and he died at 11 A. M. on the morning of the 10th.

Post-mortem examination 6 hours after death.—Rigor mortis moderately marked. Lungs healthy; some congestion posteriorly, undoubtedly post-mortem. Heart, liver, and kidneys normal. Spleen somewhat congested. Omentum congested and seemingly inflamed to a

slight extent. Small intestines greatly congested, and Peyer's glands much enlarged, with commencing ulceration in a few; they resemble to the touch enlarged lymphatics, and are raised three to four lines above the mucous membrane. The solitary glands of the large intestines very red and enlarged. Several patches of considerable size in both large and small intestines greatly congested and of a purple hue. Stomach congested and mucous membrane softened. The cavity of the arachnoid and all the ventricles of the brain filled with thin, clear serum. A small portion of anachnoid red and congested. Brain substance normal to all appearances.

YELLOW FEVER.

T. H., Swede, was brought to the Marine Hospital, Chelsea, December 12, 1877, from the schooner "Louisa Wilson," which the day before had arrived from San Domingo City, West Indies. His companion, Joseph F. Kelly, admitted the same date, says that the night they left San Domingo City, H., with others, went ashore and got on a spree. Yellow fever was then prevailing in the place. He was taken sick and confined to bed ten days after leaving. They sailed direct for Boston. When admitted he was deeply jaundiced; his temperature was 38° C., and he was very stupid; pupils dilated; was put in bed, sinapisms to stomach, feet and legs sponged with mustard water, &c. On the 13th, at 6 A. M., temperature 39.15° , which suddenly fell to 36.65° at 6 P. M. He was all day comatose, and could not be roused. On the 14th, the temperature was 39.15° at 6 A. M., and 39.15° at 6 P. M. 15th, 39.5° , at which it continued until his death, which occurred at 4.55 A. M., December 16, 1877.

Autopsy, December 16.—Liver enlarged, extending into left hypochondriac region. Tissue on section apparently normal. Pericardium contained about an ounce of yellowish serum. Heart: right ventricle, walls thin, fatty, contains yellow serum; left ventricle normal, auricle fatty. Lungs emphysematous, no pleural adhesions. Stomach pale, empty, except a small amount of yellow bile at pylorus. Intestine: inflammatory appearances in mesentery and mesocolon. Arteries injected and venous engorgement; intense redness in omentum; small intestines contain yellow fecal matter. Gall-bladder distended with yellow-fluid bile. Spleen somewhat enlarged, friable, extravasated blood in the trabeculæ. Left kidney enlarged and congested. Right kidney highly injected; no pus was found in either kidney. The diagnosis of yellow fever was confirmed.

REMITTENT FEVER.

As will be seen, the following cases of this disease were of the "pernicious" type:

CASE 1.

W. C., (colored,) aged 24; nativity, Virginia; admitted to the Marine Hospital, Louisville, Ky., August 15, 1880. Temperature at 9 A. M., 38.3° C.; pulse, 110; tongue heavily furred and flabby, with imprints of teeth around edges; nausea and occasional vomiting, with pain in epigastric region. 5 o'clock P. M.—temperature, 39.4° ; pulse, 120.

August 16.—Temperature at 9 A. M., 37.7° C.; pulse, 108; tongue brown and coated as yesterday; nausea, vomiting, and epigastric pain continue. 5 o'clock P. M.—temperature, 40° C.; pulse, 125.

August 17.—9 o'clock A. M.—temperature, 37.1° C.; pulse, 100; nausea and vomiting ceased since midnight. 5 P. M.—temperature, 37.7° C.; pulse, 98.

August 18.—9 A. M.—temperature, 37° C.; tongue cleaning; pulse, 90. 5 P. M.—temperature, 37.2° C.; pulse, 90; no pain, nausea, or vomiting; says he is better in every particular.

August 19.—Temperature, normal; pulse, 86; says he experienced some difficulty in breathing during the night; tongue clean; pulse, 90, with an occasional intermission.

August 20.—Temperature, normal; pulse, 100, and intermittent; about one intermission in six beats. He has experienced great difficulty in breathing since 8 o'clock the night previous; requires his head elevated, as he says, to keep from smothering. Percussion shows a greater area of dulness than normal over region of heart; auscultation reveals a decided regurgitant sound at base of heart, near the median line, and nearly on a level with the nipple. Patient says he had a similar attack to this about three months ago.

August 21.—Decided and continuous difficulty in breathing; temperature, normal; pulse, 112; intermittent; aortic regurgitant murmur very distinct; the systolic movement of the heart shorter than normal, seemingly made with a jerk, while the diastolic is longer than usual. From this date the dyspnea gradually increased. On the 25th, oedema of feet and legs was noticed; the action of the heart became more and more irregular. By the 1st of September the patient was no longer able to lie down, but sat on the side of the bed, with his head resting on a small table in front of him. All the symptoms grew worse until the 9th of September, when he died suddenly at 10 o'clock A. M.

At the time of death the œdema of lower extremities was great, extending to the cellular tissue of abdomen and chest.

Autopsy, 8 hours after death.—Rigor mortis well marked. General anasarca noticeable. Liver congested, and gall-bladder greatly distended, by reason of a gallstone (cholesterine) impacted in the duct; three other such concretions found in gall-bladder. Spleen and kidneys enlarged and congested; effusion of serum in peritoneal cavity and in both pleural cavities, amounting to 500 C. C. in each. Stomach and intestines somewhat congested. Lungs slightly œdematous and *post-mortem* congestion; 250 C. C. serum in pericardium. Heart hypertrophied, not dilated; unusual thickness of walls and septum; large fibrinous clots in aorta and pulmonary arteries, extending through the valves into the cavities of the heart; small particles of fibrin firmly attached to the free margin of the tricuspid valve; one of the semi-lunar valves of the aorta was a mass of warty-looking excrescences, resembling somewhat cauliflower, and weighing 666 gms.; the other two thickened, and seemingly undergoing fatty degeneration; in the wall of the left ventricle and about one inch from the aortic opening is a small abscess, containing about 4 C. C. of pus. Brain and membranes normal.

CASE 2.

P. J., aged 24 years; admitted to the Marine Hospital at St. Louis, Mo., September 23, 1880. Had been sick for some time on boat, without medical attendance. When admitted was in a state of great prostration. Surface cold and clammy. Slight diarrhœa. The whole system seemed completely overpowered by the virulence of the malarial poison. Grew worse until September 25, 1880, when he died in a state of complete collapse.

Autopsy.—Thorax: Right lung, lower lobe, congested; left lung, lower lobe and lower part of upper lobe, splenified. Heart contained large chicken-fat clot. Intestines somewhat congested; Peyer's patches not infiltrated. Mesenteric glands normal. Liver very large, dark colored, and soft. Spleen twice the normal size and pulpy. Kidneys large and œdematous.

CASE 3.

J. G., aged 35; nativity, England; admitted to marine ward, St. Joseph's Hospital, Baltimore, Md., October 30, 1880, in a moribund condition. The only history ascertainable was that he had had a severe chill five days previously, after which he became unconscious. When admitted, his temperature was 35.5°; pulse could not be determined; respirations,

20 in number and labored in their character; skin was cold, yellow, and shrivelled; there was profuse sweating; unconsciousness, but no diarrhœa and no vomiting. He resisted all attempts to put food or medicine in his mouth, and stimulating enemata were given, which brought his temperature up to 37.5° and rendered his pulse perceptible. This case was diagnosed as one of remittent fever of a malignant type. He died 36 hours after admission—asphyxiated.

Autopsy, November 1, 1880.—No abnormal condition of the heart or lungs could be found. His liver was congested and slightly softened. His spleen was four times its usual size, and so much softened that it resembled a shapeless mass of black jelly. There was congestion of the small intestines, but no special lesions could be detected. The kidneys were slightly congested.

CASE 4.

W. J., (colored,) aged 32; nativity, Kentucky; admitted to the Marine Hospital, Louisville, Ky., November 20, 1880, at 4 o'clock P. M.; temperature on admission, 40° C.; pulse, 125; tongue furred and flabby, with imprints of teeth on edges; pain in epigastric region, with nausea and occasional vomiting; was taken with a chill the day previous, (19th;) bowels constipated.

November 21.—Temperature at 8 A. M., 38.3° C.; less nausea and pain; temperature at 5 P. M., 39.7° ; pulse, 120.

November 22.—Temperature at 8 A. M., 37.7° ; 5 P. M., 38.3° ; nausea, vomiting, and pain ceased; patient cheerful and feeling much better.

November 23.—Temperature, 8 A. M., 37° C.; pulse, 90; tongue cleaning; every prospect for a speedy recovery. 4 o'clock P. M., died suddenly in bed.

Autopsy, November 24, 20 hours after death.—Rigor mortis well marked. Stomach, intestines, and kidneys normal; spleen enlarged. Lungs healthy; a pleuritic adhesion of left side, the result of an old pleuritis. White fibrinous clots found in right auricle and left ventricle of heart, believed to be *ante-mortem*: the valves were healthy, and the heart was normal as to appearance and size. Brain and membranes normal.

CASE 5.

W. B., aged 45; Irish; admitted to Marine Hospital, Portland, Maine, May 2, 1881, gives history of prolonged malarial fever, or rather of the "prolonged influence of malarial poisoning," which he contracted in the South and southern islands; is very weak and anemic. A slight murmur is heard with and following the first sound of the

heart, and there were some evidences of dropsical effusions. Treatment: concentrated food, tonics, diuretics, &c. Died May 4, 1881.

Autopsy, 16 hours after death, showed the following conditions: Lungs congested; heart soft and flabby; mitral valve slightly diseased; the pleural cavity contained a considerable quantity of fluid. The liver had undergone fibroid degeneration to some extent, and the kidneys were considerably enlarged. The spleen was very much enlarged; it weighed 1,250 gms., and was quite soft. There was also some fluid found in the abdominal cavity.

ERYSIPELAS.

CASE 1.

Traumatic origin.

J. S. was admitted to the Marine Hospital, Chicago, Ill., May 5, 1880, having been shot through the hand one or two nights previously, the ball from a 32-calibre revolver entering above the metacarpo-phalangeal joint, between the second and third metacarpal bones, and emerging near the carpus over the third metacarpal, shattering the latter. The shock was great, seeming out of proportion to the gravity of the injury, and followed by great pain. Under irrigation with carbolyzed water the pain was greatly relieved, but considerable restlessness and loss of appetite continued, and the inflammation extended up the arm. By the 14th, abscesses had formed between elbow and wrist, containing thin, unhealthy pus. Free drainage was kept up through the hand and fragments of bone removed from time to time, though but two or three spiculæ were found. Erysipelas appeared in face on the 19th, which involved the arm on the 22d, passing through the usual course in about twelve days. On June 2 there was scarcely any blush remaining. From the latter date he gradually improved until the 30th, when he had a severe chill, which was followed during the next two weeks by abscesses and pyæmic symptoms.

July 15, he began to improve, regained some control over sphincters, and had a slight desire for food, increasing until the 31st, when erysipelas again appeared in face and simultaneously in hand and arm. From this time he continued to fail until death, on August 21.

Autopsy.—Hand and arm only examined after death. Bones of the wrist and the third metacarpal were found carious and the surrounding tissues filled with abscesses and sinuses, the latter of a dirty color and presenting a gangrenous appearance.

CASE 2.

Idiopathic origin.

W. O'B., Ireland; age 44; admitted to the Marine Hospital, New York, January 28, 1881. On admission, patient had erysipelas of right lower extremity, which soon appeared in corresponding member. The patient had just recovered from sub-acute pleurisy, but now bronchial catarrh was detected. Under treatment there was marked improvement for a few days, when pneumonia was discovered; the patient gradually grew worse and died on the 12th of February, of œdema of the lungs.

Autopsy.—Lungs found to be the seat of a pneumonia which had undergone purulent infiltration and also collateral congestion. The costal and visceral pleurae were adherent throughout on the left side, and, to a considerable extent, on the right side; heart normal and filled with *post-mortem* clots. No further examination was made.

PYÆMIA.

CASE 1.

Abscess of knee-joint—Pyæmia.

E. O., Sweden; aged 26; admitted to the Marine Hospital, Bedloe's Island, February 26, 1881. Upon admission, was complaining of stiffness in left knee, and was in a poor condition. In two weeks an abscess formed just below the joint and a large quantity of pus was evacuated. The cavity did not appear to have any connection with the joint. Two days later a rash appeared on the body, accompanied with coryza and conjunctivitis; this followed the administration of iodide of potass., and disappeared when it was stopped. Patient grew weaker, disturbed to a small extent with nausea and at times vomiting; then he began to complain of headache, and his mind became somewhat impaired. Had slight œdema throughout body. Breathing became stertorous, but not accelerated. Nothing abnormal found in urine. His language was very incoherent for several days previous to death. Patient died March 29.

Autopsy.—Lungs slightly congested posteriorly. Bronchial tubes were the seat of chronic catarrh, the mucous membrane being much thickened. Cavity of pleurae had about 150 C. C. of serum. Pericardium healthy. The sac contained 60 C. C. of serum. Heart normal in size, but muscle was softened; valves normal. Liver normal. Spleen

somewhat enlarged and very much softened. Stomach and intestines were healthy but had excess of gas. Kidneys much enlarged; cortical portion very anæmic and appeared to be the seat of granular degeneration. Cavity of peritoneum contained about 250 C. C. of serum. Brain: surface slightly congested; the ventricles, especially the lateral, contained a small quantity of serum. Brain substances appeared normal. Mastoid cells the seat of chronic inflammation. Knee joint: the lower end of femur and head of tibia were in a carious condition, being "honey-combed." There were several small abscesses in the popliteal space, the abscess in front being connected with them by means of sinuses running around the joint through the cellular tissue.

CASE 2.

Abscess of back—Pyæmia.

R. K., aged 50 years; admitted to marine ward, University Hospital, Philadelphia, Pa., April 22, 1880. He complained of pain in knee-joints and back. Examination detected nothing abnormal in back except marks of previous cupping; the history, as given by patient, indicating syphilitic complication. Pain in the lumbar region continuing, a blister was applied; this did not remove it. Subsequently signs of inflammation presented over the sacrum, and poultices were applied. The inflammation continued to spread rapidly, and soon the entire left side of the back from the sacrum to the scapula was involved. The aspirator failed to discover pus. Poultices were applied, and subsequently pus—about 30 C. C.—withdrawn. Adynamic symptoms appeared and were met with stimulants. During the next twenty-four hours pus—about 500 C. C.—was withdrawn from the back, but symptoms of pyæmia presented, and the patient died within two hours of the last evacuation of pus.

Upon *post-mortem* examination, all of the muscles of the back, bound down by the transversalis fascia, were found to be broken down and the cavity filled with sanious pus. Pyæmic abscesses were found in the spleen, lungs, liver, and kidneys. The cavities of the heart were filled with fibrin. The patient had all his life been troubled with constipation. The rectum was found to be scarcely more than one-half an inch in diameter. A peculiarity of the case was, that at no time was the temperature higher than 38.5° C.

NOTE.—For an interesting case of chronic pyæmia, see "Peritonitis Suppurative." The case cited also exhibited a low range of temperature.

SYPHILIS.

C. A. H., aged 29; Sweden; admitted to Chelsea Marine Hospital March 11, 1878, having been transferred from Hyannis. His voice was entirely gone, he being only able to speak in a whisper; there was a syphilitic history, and his throat was much swollen externally; he had a cough, and was considerably emaciated. A short time after his admission, he complained of severe pain in the right iliac fossa, which continued without material change until his death, which occurred June 25, 1878.

An autopsy was held June 26. The larynx was found very pale and œdematous. The lungs were full of tubercular deposit, which was found also in the liver, the spleen, the pancreas, intestinal glands, and the omentum; the kidneys were notably free from disease. The cœcum was large, distended, pale, and its inner surface much ulcerated. The heart was dilated and flabby. His disease was undoubtedly syphilitic tuberculosis. The cœcum is preserved in the hospital museum.

SYPHILIS OF THE BRAIN.

J. S. A. was admitted to the marine-hospital ward of the Seaman's Home Hospital, Wilmington, N. C., on the 16th of October, with facial neuralgia. He had served in a coasting-vessel, and had the appearance of one suffering with an ordinary malarial brow-ache. He was rather pale, but in good flesh.

October 17.—Nurse reported the patient as having been moaning and apparently crazy with pain all night, but he fell asleep across his bed towards daybreak. He was found resting in deep sleep. The left pupil is dilated, the right is contracted. There is no sweating. He changes his position in bed when violently shaken, but without waking. Morphia is ordered to be prepared for a night dose, when it is discovered that the bottle is missing, and suspicion is at once directed to the patient. He is watched all day, and at night is detected by the nurse hurriedly going from his bed to the water-bucket for a drink. It is then discovered that he has two bottles of the same size—salt mouth, 75 C. C. One is a nearly full bottle of corrosive chloride of mercury, the other an acetate of morphia bottle.

October 18.—The nurse informed me of the discovery of the bottles. The morphia-bottle when taken contained from three to four grains of the salt. All this was taken in two nights by the patient, but the narcotism to-day is not dangerously profound. The pupils remain as on yesterday—the right very small, the left much enlarged.

October 19.—The patient's mouth and lips are severely cauterized from the corrosive mercury. He can swallow no solid food, and can scarcely talk audibly. He takes a little mush. The narcotism is not so profound, the patient enjoying a state of great contentment. He does not complain of anything, but sleeps most of the day. The amount of corrosive chloride taken cannot be ascertained, but it is supposed that he took it in the dark, thinking he was getting morphia, but discovering his mistake he rinsed his mouth, and then swallowed the morphia.

October 20.—He is in a terrible plight from extensive cauterization of the lips, buccal cavity, tongue, and pharynx. The swelling and heat are very great. He can take only fluids in small quantities.

October 21.—He is improving somewhat. Pupils remain unchanged. At night he is very troublesome. The nurse has to watch him constantly to prevent threatened suicide. His groans with pain keep all the other patients in the ward awake.

October 22.—He is still improving. The pulse and the temperature are normal. He takes only liquid food. He seems to find great comfort from the application of cold water to his head. 1.5 gm. Dover's powder at bedtime.

October 23.—Had rather a better night, although he was very noisy towards day. All the patients complain of him. He talks rationally and distinctly to-day. Says he contracted the opium habit seven years ago while in the China trade. He can take three or four ounces of laudanum a day. His captain called to see him and charged him with having robbed his medicine chest of the laudanum on the voyage out from Boston. His face is somewhat flushed. Pulse 78, full and strong. Temperature normal. 1.5 gm. Dover's powder at bed-time.

October 24.—He had a sleepless and noisy night. His face is flushed; pupils as on the previous examinations. His mouth has improved. He has no appetite, but takes some soft food. He begs for laudanum, and thinks he would be ready for discharge at an early day if he could get one good night's sleep. Chloral hydrate 1.5 gm. and bromide of potassium 2 gms., in 20 gms. syrup, ordered for bedtime.

October 25.—He could not swallow enough of his medicine to produce any effect. He had a fearful night. His face is flushed as if by alcohol. Temperature normal. The cold water produces a calming effect. He is indisposed to get up to the water-closet, and lies listless in bed all day. His food remains untouched. 1.5 gm. Dover's powder at bed-time.

October 26.—The same as yesterday. The Dover's powder seems to have no effect. He eats nothing. .06 gm. codein at bedtime.

October 27.—He is moved to a separate room. He has passed urine wilfully in bed. His face is flushed and his eyes staring and wild, but the temperature is normal and the pulse 78, full and strong. He complains greatly of pain, locating it on the right side of his head. Bromide of potassium, 2 gms., in solution with syrup, and 5 drops of hydrobromic acid every three hours.

October 28.—He has groaned and yelled a great deal in the night. He passed urine in the bed during the night. He eats very little. His breath is now for the first time found to be mercurial, and there is a free flow of saliva; otherwise there is no change since yesterday.

October 29.—He has had another bad night. When remonstrated with for his filthiness he restrains himself for the time, but soon lapses again into his old ways. Bromide as above, continued with the addition of 2 gms. chloral hydrate at bedtime.

October 30.—He has had a better night. His salivation is lessened. He has eaten some food but vomited it. His face is flushed and his pupils are unchanged. He complains of pain, for which he wants opium. Treatment continued. He continues as above, somewhat improved in the daytime.

November 3.—The bromide and chloral have little effect now. The following is prescribed:

R. Tr. Valerianæ Am., 35 C. C.; ammonii bromidi, 16 gms.; codein, .5 gm.; syrupi ad., 75 C. C. M. S. Teaspoonful every five hours.

From this day until the date of his death (November 7) he appeared to be better. He was more rational and hopeful, although he sometimes vomited. He was found dead when the nurse went to take his breakfast to him. At midnight he was apparently sleeping very comfortably.

Autopsy, made at 4 P. M., on November 7.—The calvarium was removed by making an incision across the head from ear to ear, and the skull sawed through just above the frontal sinuses. The inner table of the frontal bone was carious over a triangular area, the base of which was $3\frac{3}{4}$ inches, and on a line with the frontal division of the bone, extending backwards in the direction of the frontal suture, and on either side of it for $2\frac{1}{2}$ inches. The frontal bone was found to be so thinned as to be diaphanous in several places, and minute perforations were noticed at two or three points. The outer surface of the frontal bone was covered with irregular nodules. The whole bone showed extensive periostitis.

There was no escape of pus or other fluid on opening the cranial cavity, and the brain was of normal consistency.

The dura mater lying directly beneath the carious frontal bone was thickened as much as one-fourth inch in the thickest part, and exactly corresponded to area of the caries, filling up the carious cavity. The meninges were adherent to the cerebrum, all along the line of the longitudinal fissure, on either side of it. The membranes could not be separated over the frontal lobes, being so agglutinated and thickened; but the thickened membrane was disposed in broad laminae of a creamy whiteness, and very dense and tough.

In attempting to remove the membranes from the right frontal lobe, extensive adhesions were revealed, the attachment beneath being to a tumor the size of a small lemon (2 inches by $1\frac{1}{2}$ by $1\frac{1}{4}$ thick) lobulated, and denser than a gumma, but the density was due to its immersion for several days in alcohol prior to its examination.

There was extreme venous congestion of the base of the brain, but with this exception it presented no other morbid appearances, and its weight, after being immersed in dilute alcohol for 24 hours, was 62 ounces.

The long bones were all examined for nodes and irregularities, but none were discovered. There were no signs of inguinal cicatrices, and no syphilitic cutaneous stains or achromia. The penis was not examined for chancre cicatrices.

Remarks by the Reporter.—Repeated examinations did not elicit from this patient any syphilitic history. His symptoms were all obscured by the narcotism of the first few days after his admission, and by his repeated declaration that he was an opium-eater.

There was no aphasia, no loss of memory, no paralysis. The only thing certain was meningitis located in the frontal region, but of undetermined origin. True, the nocturnal pains pointed to a syphilitic origin, had not the usual external signs been absent, and the denial of the patient of any knowledge of his infection. Without doubt, though, this was a case of dry syphilitic caries of the frontal bone, and the neoplasm in the frontal lobe a syphiloma, having the appearance of an adenoma. Judging from the extensive caries of the bone, and thickening of the dura mater, and remembering the slowness of these processes, it is pretty sure that the otitis and meningitis preceded the formation of the cerebral tumor.

CANCER OF STOMACH.

CASE 1.

N. D., aged 50; admitted to the marine ward of Jefferson Medical College Hospital, September 1, 1880; died February 17, 1881; admitted for bloody vomiting; dull, heavy pain in stomach, sometimes shooting. Vomiting relieves pain; blood ejected black, food streaked; has lost considerable flesh; no tumor can be felt; was in hospital two years ago with same trouble; appearance noticeably cachectic; father died with some stomach trouble, not exactly known what. Treatment: milk diet.

October 1, 1880.—Marked improvement.

November 1, 1880.—Improving satisfactorily; tonic treatment and diet continued.

December 1, 1880.—Continued improvement, patient gaining flesh. Death February 17, 1881, of asthenia.

Post-mortem examination revealed the pyloric orifice of stomach so narrowed that the tip of the little finger could not be forced into it.

CASE 2.

H. M., aged 47; Norwegian; admitted to the Marine Hospital, Chicago, January 20, 1881. Countenance indicative of cancerous cachexia, vomiting frequent, constipated, suffering constant pain, lancinating in character, radiating from region of stomach towards back and sides; the latter was the most prominent symptom. Palpation revealed an indurated mass. The pain continued to increase, the other symptoms remaining much the same as when admitted until his death, which occurred on April 12.

Autopsy.—Rigor mortis absent; greatly emaciated. Thorax and abdomen only examined. Lungs normal, no pleuritic adhesions. Heart small, devoid of fat, walls thinned, pericardium contained 50 C. C. fluid. Abdomen contained about 10,000 C. C. (estimated) of almost transparent fluid, containing numerous flakes of fibrin. Intestines dotted with numerous deposits of recent lymph. Liver, stomach, (posterior portion of lesser curvature,) spleen, pancreas, and left kidney so closely adherent that they could not be separated, and so closely adherent to lateral and posterior abdominal walls and diaphragm that they were removed with the greatest difficulty. Omentum injected and somewhat adherent at upper portion, as were also the intestines in the neighborhood of the mass. Examination *in situ* showed perforation by ulceration at the junction of the adherent stomach and the left lobe of the liver, about a hand's breadth from the cardiac orifice of the stomach.

Upon section, the stomach was found to be constricted into two compartments, the lower connecting with the duodenum by the greatly contracted pyloric orifice; the walls pale, yellowish, and containing a little mucus; the upper containing some food, imperfectly digested, the walls congested; the pyloric orifice contracted to about the size of a quill. From a point to the left of the cardiac orifice, extending to the greater curvature, ulceration had occurred through the wall of the stomach into the liver, so that only a thin shell of liver remained, the perforation resulting therefrom. Cardiac orifice and lower portion of œsophagus greatly thickened and contracted. The walls of the stomach were greatly thickened throughout, and the stomach as a whole contracted.

CASE 3.

G. A., aged 39 years; nativity, Louisiana; admitted to marine ward, University Hospital, Baltimore, Md., April 30, 1880. When first sent to hospital he had just come from the South, and had diarrhœa for several weeks; he was emaciated and very weak. When transferred, July 1, 1880, to St. Joseph's Hospital, a careful examination was made of his condition, but the cause of his troubles was obscure. There was no vomiting, and no tumor could be detected. The mineral astringents gave temporary relief, but he continued to emaciate slowly, and in September he began to vomit occasionally after his meals. The diagnosis was changed to "cancer of the stomach." October 2, 1880, he had a stroke of apoplexy and died in two days.

Autopsy, October 5, 1880.—Lungs and heart were normal. A scirrhous cancer was found, involving the pyloric extremity of the stomach and one-third of the left lobe of the liver posteriorly. As only a small portion of the stomach was encroached upon, the liver was probably the primary seat of the affection.

CASE 4.

J. G., aged 50 years; admitted to the Marine Hospital, Bedloe's Island, December 8, 1879; died January 7, 1880.

History and symptoms.—Felt perfectly well up to three months past, his first symptoms being vomiting of food after ingestion. Blood and mucus were also frequently vomited. Pain was soon felt in the region of the stomach, and he was obliged to wear his clothing loosely in that region. Complained, on admission, of pain more or less diffused over whole abdomen; pains sometimes passing up into right chest. Regions complained of are very sensitive to the touch, particularly over the abdomen in the epigastric right and left hypochondriac regions.

Patient is anæmic, emaciated, and unable to move without assistance. Palpation over affected regions reveals the presence of an oblong mass extending along the upper part of right hypochondriac, epigasttric, and left hypochondriac regions. The mass appears to be nodulated on pressure, and the latter causes pain—at first of a dull, afterwards of a lancinating character. Feet and ankles somewhat swollen; pulse, 100. Continued in this condition till January 7, 1880, when death occurred.

Autopsy, January 7.—On opening abdomen considerable bloody serum escaped. Liver very much enlarged and studded with cancerous nodules. Pyloric end of stomach infiltrated with same material. Stomach contained about a 1,000 C. C. of dark fluid blood; mesenteric glands were much enlarged.

SARCOMA OF THIGH.

CASE 1.

P. P., admitted to marine ward, Savannah Hospital, June 2, 1880; nativity, Virginia; aged 20 years; was a hostler until about fifteen years old, when he went to sea; has been a seaman ever since; health always good; father enjoyed fine health, was killed during the late war; mother still living, thinks she has kidney disease. Patient was severely scalded from boiler explosion on the steamboat "Reliance," of Savannah, September, 1878, on left leg, the scald extending from upper third of femur to about the middle third of leg.

There was great difficulty in getting this scald to heal. About the 1st of April, 1880, he noticed a swelling on the inner side of thigh, about 75 millimeters below Poupart's ligament. This swelling was rubbed with kerosene oil, which apparently hardened it. Afterwards, on rubbing it with oil of turpentine, it apparently softened. During the latter part of this month (April) the swelling or tumor assumed the appearance of a fungus growth, which protruded considerably above the skin. It continued to increase in size until about April 30, at which time he applied for hospital-relief at Fernandina, Fla. The acting assistant surgeon passed a knife into the tumor, and sent him to Savannah for treatment. There was considerable fetor developed after the skin was broken, and it presented the following appearances: The tumor was covered with normal tissue, which was ulcerated in several places, and an unhealthy granulating mass exuding through the ulcerated spots, above the surrounding integument discharging pus, small in quantity but very offensive.

Patient had every appearance of being well nourished; all of his organs apparently in normal condition. He was placed on Tr. Ferri Chlor. Gm. 1 three times per day. On June 15, 1880, the entire mass was removed with the knife down to the surface of the surrounding skin, and the actual cautery was applied to the surface of wound. This granulating mass gradually reformed until July 1. It was again removed. At this time the patient's general condition was evidently growing worse. The tonic course of treatment was continued, together with nourishment and cod-liver oil, but there was a steady decline in his condition until October 18, when the case terminated fatally.

Autopsy, 8 hours after death.—General appearances anæmic and very much emaciated; heart, stomach, spleen, and liver in apparently normal condition. A dissection of the affected part of thigh demonstrated that the entire tissues were involved in the morbid growth. Over the periosteum of femur there was found about 500 C. C. of sero-purulent fluid; periosteum remained unaffected.

CASE 2.

J. K., (white,) aged 27; large form, very much emaciated, cachexia; recorded diagnosis, "medullary cancer of thigh and chronic dysentery;" admitted to marine ward, St. Mary's Infirmary, Cairo, Ill., March 1, 1879; died November 5, 1879; had dysentery for eighteen months previously; now has a soft, rapidly-growing, regular-formed, and painless tumor on the thigh just above the knee, attached to the bone; inguinal glands not enlarged; no ulceration of skin except where an abscess (?) had opened, leaving a sinus 5 C. in diameter, from which there has been a profuse discharge since September 2, 1879; urine, 1.012 S. G., and occasionally albuminous.

Autopsy, 14 hours after death.—Neoplasm evidently sprang from the epiphysis of the femur, and involved all of the adjacent tissues except the skin and the cartilage of the joint, which was separated from the femur and eroded, but not infiltrated by the growth. Inguinal glands normal. Macroscopical examination only. Abdominal organs: large intestine extensively ulcerated and thickened; many adhesions in the peritoneal cavity, and some mesenteric glands enlarged; no discoverable malignant disease; liver large, smooth, and firm, evidently amyloid; no discoverable malignant disease; kidneys like the liver, the left one more degenerated than the right. Microscopic examination showed the tumor to be a "spindle-celled sarcoma;" one mesenteric gland, the largest, and one rather pulpy ulcer from the sigmoid flexure gave no evidence of malignant disease. No other organs examined.

MORBUS COXÆ.

B. C., (white,) aged 23; weak and slight, much emaciated; admitted to marine ward, St. Mary's Infirmary, Cairo, Ill., December 20, 1879; died April 24, 1880. Original diagnosis, "phlegmonous erysipelas;" subsequently changed to "morbus coxæ." The patient entered with a very bad attack of phlegmonous erysipelas, beginning at an open bubo in the right groin. Lost all of his scrotum, and had general sloughing of the inter-muscular tissue of thigh and lower abdominal walls; eight or ten abscesses formed deep, and were evacuated after all external signs of the disease had disappeared. Rallied and was walking around, when another attack of erysipelas supervened. Recovered from this slowly. On March 27, at night, he was suddenly taken with violent pains in the hip, and all the symptoms of late hip-joint disease, which increased to April 13, when the joint was opened. A large amount of carious bone was removed; the pelvis found perforated. Died April 24, 1880.

Autopsy, 22 hours after death.—Pelvis: a large and old abscess sac between the iliacus and psoas, next to the bone; the bone was black and carious and penetrated at the acetabulum. The abscess sac was continuous with the cavity of the hip-joint, and by the greater sciatic foramen, with one outside of the pelvis under the gluteus. Head of the femur carious to a small extent; the anterior and lower margin of the acetabulum nearly destroyed. Pelvic viscera healthy. It was regarded as an abscess attendant on the sloughing of the connective tissue between the psoas and iliacus, involving the bone subsequently and the hip-joint by the penetration of the acetabulum. No other organs examined.

TUBERCULOSIS.

Tubercular disease of the pulmonary and digestive apparatus, extensive pleuritic effusion, paracentesis-thoracis.

G. I., (colored,) aged 27; native of the Bahamas; admitted to Marine Hospital, Key West, Fla., February 16, 1881. On the 1st of March, 1881, he was suffering with hectic fever, an extensive pleuritic effusion, and enlargement of the lymphatic glands at the root of the neck. The history of the present illness covered several months, during which there were symptoms of chronic pulmonary trouble—persistent, dry, harassing cough, marked dyspnoea, and emaciation. On the 5th of March he was tapped in the seventh right intercostal space, in the line of the axilla, and about 1,500 C. C. of clear serum were removed by aspiration. The relief afforded by the operation was not as great as was expected, and a more careful investigation of the case demon-

strated marked enlargement of the bronchial glands and consolidation of the right lung. The latter was, indeed, apparent at the apex before the operation. The enlargement of the cervical glands, the pain around the chest, extending sometimes down the right arm, the great frequency of the pulse, the feeble voice, the cough, the difficulty in deglutition, and, finally, the dulness about the third and fourth dorsal vertebræ, where the tubular resonance should change abruptly into pulmonary resonance, were considered due to enlargement of the bronchial glands.

History.—The man had been suffering with dyspnœa, harsh, dry cough; some difficulty in deglutition, very frequent pulse, and emaciation before the physical signs showed the existence of sufficient pulmonary lesion to account for the symptoms. Then the pleuritic effusion made its appearance rather suddenly, so that the conclusion was reached that the effusion and the catarrhal pneumonia were brought about by the disturbed innervation and vascular supply of the lung, caused by the enlargement of the glands. The subsequent history of the case showed a marked tendency to involvement of the lymphatic system in the tubercular process. Two weeks after the operation the abdominal symptoms made their appearance, and soon became the source of greatest distress to the patient. He had diarrhœa, tympanitis, tenderness over the abdomen, marked pulsation of the abdominal aorta, pain shooting into the lower extremities, paresis of the right leg, and enlargement of the lymphatics of the right iliac fossa. It may be here mentioned that the only treatment that was found to relieve the abdominal distress was a combination of opium with resin of turpentine. The patient died of exhaustion on the 28th of April.

Autopsy.—Thorax: the bronchial glands formed a large mass, projecting forward between the two lungs. Both lungs, and especially the right, were the seat of extensive caseous infiltration. The pleuræ were adherent, and there was but little fluid left in the right pleural cavity. The heart was fatty. Abdomen: all the viscera were adherent, and, especially those occupying the upper segment, were matted together into one mass. There were a few small cheesy masses in the liver. The intestines presented some ulcers extending transversely to the long axis of the bowel, and the tubercular deposits were well marked in the course of the mesenteric radicles. The mesenteric glands, as well as the lumbar, the iliac, and the inguinal, were enormously enlarged, and many of them undergoing rapidly the caseous degeneration. The kidneys were apparently normal. No microscopic examination could be made of the tissues, and the *autopsy* was made under very unfavorable circumstances.

ACUTE MILIARY TUBERCULOSIS.

A. P., born in Constantinople; aged 43; admitted to the Marine Hospital, Mobile, Ala., in August, 1880, with phthisis pulmonalis. Died February 14, 1881. Had been sick about two and a half years.

Autopsy, made 8 hours after death.—Emaciation excessive; cavities in both lungs near apex; posterior surface of left lung greatly congested; old pleuritic adhesions, sufficient to render removal of lung quite difficult; upon removal and closer examination, both lungs found studded with miliary tubercles. (Acute miliary tuberculosis was diagnosed one week before death.) The lungs, particularly the right, were filled with caseous masses and purulent matter, greenish and very offensive; nothing abnormal about other thoracic viscera; slight indications of tubercular deposit in the peritoneum; liver greatly enlarged, somewhat fatty; other organs not examined.

PHTHISIS PULMONALIS.

CASE 1.

J. B. J., born in Sweden; 43 years old; admitted to Marine Hospital, Mobile, Ala., July 11, 1880; died March 20, 1881. Sick about fifteen months; body examined eight hours after death; emaciation very great; right lung firmly adherent over entire surface to thoracic parietes; removed with great difficulty; showed signs of recent circumscribed pneumonia; several small cavities; also, bronchiectasis, which latter condition was also found in the other lung. In many places the parenchyma when cut into was exceedingly dense and unyielding, having the feel and resistance of tough fibrous tissue; at others, presenting a dark-looking infiltration, together with innumerable masses of cheesy residua, which flowed out after the knife. The left lung looked pretty much as the right, except that it was not so resisting, and the cavity in the apex was much larger. There were a number of pneumonic nodules, especially about the middle of the left lung, but no satisfactory indications of miliary tubercles. Nothing unusual about other organs.

CASE 2.

V. B., born in Spain; aged 39; in the Marine Hospital, Mobile, Ala., one year, with chronic pneumonic phthisis. Died May 8, 1881.

Autopsy, 16 hours after death.—Rigor mortis well marked; emaciation excessive. Heart rather small, and disposed to slight fatty de-

generations; valves normal. Right lung externally of dark, grayish color; bound to pleura in spots; considerably congested; one or two spots of circumscribed pneumonia; occasional deposits of caseous matter throughout—in some places of hard, cheesy consistency; in others broken down, softened, and flowing with the cut. Left lung fiery-red in color; externally hard and fibrous to touch; contained a cavity at apex as large as an orange, partly filled with sanguineo-purulent matter. This cavity was connected with others of smaller and varying sizes, filled with same material, that flowed out freely after the knife, as much as 400 C. C. Rest of lung solidified, and purplish-red within; somewhat tough in texture, and dotted with sphacelated masses in different degrees of disintegration. Stomach not much larger than one's fist, and pushed up under the left hypochondrium by the liver, which was of polish-yellow hue, evidently infiltrated with fat, and of enormous size; the left lobe extended as far as the spleen, which appeared to be normal. Other organs not examined.

CASE 3.

G. W.; nativity, Maine; admitted to the Marine Hospital, Portland, Maine, April 4, 1873; died April 24, 1873.

Autopsy, 20 hours after death.—Old pleuritic adhesions on both sides; purulent infiltration of superior and middle lobes of right lung, with a large number of vomicæ, ranging in size from a pea to a filbert, and hepatization of inferior lobe. The left lung has a vomica at the apex about the size of a hen's egg, and is closely studded with miliary tubercles throughout both lobes. Other organs healthy.

CASE 4.

J. S.; nativity, Philadelphia; admitted to the Marine Hospital, Portland, Maine, August 23, 1873; died August 25, 1873.

Autopsy, 10 hours after death.—Several old pleuritic adhesions on right side of thoracic cavity. At the apex of the right lung a vomica about as large as a hen's egg, and another of equal size in a corresponding situation of the left lung, while both lungs were closely studded with miliary tubercles. The muscular fibres of the heart soft and easily torn; liver of a large size and bronzed color; great omentum at the lower border thickened by a deposit of fat. In the recto-vesical fold of the peritoneum, and also in its reflection on the anterior wall of the abdomen, a large number of tubercles, varying in size from a millet-seed to a pea. Other organs normal.

CASE 5.

J. G. C., admitted to the Marine Hospital, Bedloe's Island, August 22, 1880. Diagnosis: Phthisis pulmonalis. Died September 14. Admitted with indefinite period of illness, but growing worse the past two weeks. Family history doubtful on maternal side. Habits good. Complaints of cold; pain in chest; slight cough; some fever; and general malaise. Breath fœtid; expectoration yellow and nummular; general appearance good; little emaciation. Auscultation revealed broncho-vesicular breathing over left apex with moist râles; percussion note flatter and higher pitched in tone than on right side; vocal fremitus increased; expansion diminished. Right apex: diminution of vesicular murmur; low blowing sound on expiration; no impairment of resonance; expansion fair. On September 2, hæmoptysis occurred for the first time, and was followed by much prostration and fever. On the 14th of September another attack of hæmoptysis was followed by death in a few moments.

Autopsy.—A small cavity was found in right apex about the size of a pigeon's egg. Some small cavities were also found in the left apex. The vessel from which the hemorrhage proceeded could not be determined. The other organs of the body were not examined.

CASE 6.

J. P., Indian; aged 28 years; admitted to the Marine Hospital, St. Louis, Mo., December 16, 1879. Died March 10, 1880.

Autopsy.—Body very much emaciated. Lungs: right, an immense cavity occupying at least one-third of the lower portion, also a smaller one just above, not connected with the other; left, consolidated in upper part. Bronchial tubes dilated and thickened. Liver, fatty.

CASE 7.

J. C., aged 56 years; admitted to the Marine Hospital, Saint Louis, Mo., February 6, 1880; died February 23, 1880.

Autopsy.—Lungs: old pleuritic adhesions; small quantity clear fluid in left pleural cavity; lungs show evidences of inflammatory action; cavity in left lung; heart much dilated and fatty; large quantity of fluid in pericardial sac; valves atheromatous; clot in right ventricle; liver enlarged and soft, capsule adherent; kidneys large and white, capsule adherent; on detaching the capsule from the organ, the substance is lacerated.

CASE 8.

E. B., admitted to the Marine Hospital, Saint Louis, Mo., June 15, 1880; died August 4, 1880; age, 36 years.

Autopsy.—Body slightly emaciated, with some anasarea of face and feet. Thorax: heart healthy; lungs, old pleuritic adhesions on both sides of the chest; right upper lobe was the seat of scattered cheesy deposits, some of which had broken down into small cavities. Evidences of sub-acute catarrhal process were manifest throughout the rest of the right lung, and also in a large portion of the left. Probably one-half of the lobules of the left lung were infarcted, the bronchioles leading to them being filled with recent exudation, as well as the air-vesicles themselves, and forming numerous nodules, which could be felt everywhere throughout the lung. In some of them the process was more advanced, and they presented the yellow color of cheesy degeneration. The areas of lung tissue not involved in this process were the seat of pulmonary œdema, the immediate cause of death.

CASE 9.

J. M. A., originally admitted to United States Marine Hospital, Chelsea, Mass., May 13, 1878, apparently suffering from asthma and incipient phthisis. The latter disease rapidly developed, and the diagnosis was made of "scrofula, phthisis pulmonalis."

Autopsy, 18 hours after death.—No rigor mortis; body much emaciated; heart healthy; both lungs universally adherent to the parietes of the chest; the right lung had several vomicæ, and the intestines were crowded with gray tubercles. The left lung was tightly bound to the ribs, and was compressed against the upper part of the pulmonary cavity; it measured thirteen centimeters longitudinally, and nine centimeters in breadth. Liver healthy; a small abscess in left kidney, containing about 1 C. C. of pus; right kidney normal. Tubercular nodules were observed throughout the mesentery and glands.

CASE 10.

W. W., (colored,) aged 24 years; admitted to the Marine Hospital, Saint Louis, Mo., December 17, 1879; died March 11, 1880.

Autopsy.—Body very much emaciated. Lungs: several large cavities in both right and left lungs. Pulmonary tissue very soft, broken down. Other organs not examined.

CASE 11.

Abscess of vertebrae.

I. B., aged 40 years; admitted to the Marine Hospital, Saint Louis, Mo., April 15, 1880; died April 28, 1880.

Autopsy.—Lungs: numerous small cavities at apex; large abscess at base of each lung. Entire right lung filled with cheesy deposit.

Left lung emphysematous, recent adhesions. Heart, normal; pericardium slightly distended with serum. Liver, normal. Kidneys, normal. Stomach filled with clotted blood and pus. An abscess of the fourth, fifth, and sixth dorsal vertebrae was found, which had ulcerated through the œsophageal arteries and through the œsophagus. This would account for the blood and pus found in the stomach. The sac was as large as a hen's egg, and easily detached from the vertebrae.

DIABETES, WITH HEPATIC ABSCESS.

A. N. was sent home sick by the United States consul at Magnaez, W. I.; admitted to United States Marine Hospital, Chelsea, Mass., April 3, 1877. July 1, 1877, he was passing vast quantities of urine, 70 to 120 ounces in a single night, which, being tested each day until July 6, was found to contain sugar in large amount. He was excessively emaciated, and his digestion was so much impaired that an attempt to put him on "diabetic diet" was not tolerated, and *carte blanche* as to diet was given him, to prevent actual starvation. He had at no time any acute pain; no tenderness over any portion of the abdomen, but he occasionally had chills, followed by a little fever, at intervals of two or three days. September 6, 1877, he was seized with a convulsion at 5 A. M., and died about 10 A. M. the same day.

Autopsy was held September 7, 1877. Body greatly emaciated. Abdomen contained serous fluid, about two gallons; also pleural cavity and pericardium. The liver contained a large abscess, holding about one pint of pus. The substance of the organ was much broken down. The right lung contained tubercular deposits, and the heart was fatty. A fat cyst also extended into the aorta. (It was pure fat; proved microscopically and chemically.) The valves were sound. The kidneys were greatly hypertrophied, but betrayed no other evidence of disease. The other organs were normal in appearance.

SCURVY.

CASE 1.

T. O.; Denmark: 24; admitted to the Marine Hospital, San Francisco, Cal., December 23, 1880. Scurvy.

History.—He was admitted with four of his shipmates, all suffering with scurvy, but an old and subsequent pneumonia complicated his case. After admission another attack of pneumonia followed, which prostrated him completely.

Symptoms, progress, and treatment.—He was given a supporting treatment from the start—milk-punches, eggs, beef-tea, &c.—but made no satisfactory progress. Some obstruction to the circulation in the right arm ensued—a point at the middle-third of the humerus, and mortification followed. Death occurred June 21, 1881.

Autopsy.—Gray hepatization of both lungs and small abscesses in various portions near the apices. Mortification of right arm from obstructed circulation, but its cause was not apparent.

CASE 2.

P. R.; Denmark; 49; admitted to the Marine Hospital, San Francisco, Cal., January 7, 1881. Scurvy.

History.—Old, worn-out sailor, with the history of several severe attacks of sickness.

Symptoms and progress.—Intercurrent pneumonia soon developed, and he rapidly succumbed, having no rallying powers.

Autopsy.—The result of the *post-mortem* examination may be divided into six heads:

1. Large abscess of liver, filled with plastic material.
2. Hepatization of right lung from previous pneumonia, probably accompanying the hepatic abscess.
3. Gray hepatization of left lung from recent pneumonia, the immediate cause of death.
4. Atheromatous condition of the whole of the ascending aorta, forming a tubular aneurism.
5. Hypertrophy of left ventricle of the heart.
6. Incomplete oblique and reducible hernia.

GENERAL DROPSY.

F. M., aged 26; native of France; admitted to the United States Marine Hospital, Chelsea.

Synopsis of case.—Originally admitted to hospital, October 31, 1877, for syphilitic ulcers of neck and axilla. These ulcers were very indolent in character, but finally yielded to mercurial treatment. A very short time after the ulcers healed, a copper-colored eruption appeared over body. At this time symptoms of phthisis appeared. There was marked dulness at the apices of both lungs and a distressing cough. These symptoms gradually became more marked, and dulness was marked over the entire thorax. The abdomen, feet, and legs became oedematous and greatly distended. Elaterium was freely adminis-

tered, which had the effect of entirely removing the fluid from the legs and scrotum. The abdomen still continued distended, and the orthopnea was so great that he was tapped, February 18. His distress was only temporarily alleviated, and he died in great agony, February 21, 1878.

Autopsy, February 22, 1878, 16 hours after death.—Appearance of body: Face and head mottled; appearance of strangulation; fluid exuding from nose and mouth; areolar tissue throughout the body infiltrated with serum. Thorax: Right side contained about 2 litres colored serum. There were nodular deposits on the pleural surface. The lungs were completely collapsed, and there were several adherent bands. The left side contained about 2 litres of colored serum. The pleura and pericardium had united so firmly that it was impossible to separate them. These tissues were much thickened and almost cartilaginous. The surface of the heart was covered with "cauliflower" vegetations. The valves were apparently healthy. The abdomen contained about 2 litres of serum; the stomach about 400 C. C. The pylorus was thickened and cartilaginous; spleen, kidneys, bladder, and intestines normal in appearance.

CASE 2.

W. C.; nativity, England; aged 50 years; admitted to the Marine Hospital, San Francisco, Cal., November 1, 1878. Diagnosis: General dropsy.

Symptoms.—Dyspnea and palpitation of heart; action of heart irregular.

Treatment.—November 3, pilocarpine (.022 gm.) was injected hypodermically, followed by profuse perspiration, accompanied with a flow of saliva. November 6, paracentesis abdominis was performed, and 1,200 C. C. of fluid withdrawn. Death November 14.

Autopsy.—Found right lung pushed entirely from its position towards median line, and lower lobe hepatized, and right thorax filled with fluid. Kidney and liver normal. Spleen softened and mushy. Both auricles and right ventricle very much dilated, with hypertrophy of left ventricle. Insufficiency of mitral and tricuspid valves, with clot formed on tricuspid.

CASE 3.

J. M.; nativity, Macon, Ga.; admitted to the Marine Hospital, Portland, Maine, June 19, 1874. Diagnosis: Anasarca. Died July 18, 1874.

Autopsy, 20 hours having elapsed.—Pleuritic attachments; heart enlarged; left ventricle fatty; valves ridgy; dropsical effusion great, both in thorax and abdomen. Liver apparently healthy. Spleen and kidneys healthy. Dropsy probably due to diseased heart, consequent on rheumatism, with which deceased had been affected some months.

MENINGITIS.

CASE 1.

H. R., aged 21 years; nativity, Maryland; was brought in an ambulance to the St. Joseph's Hospital, Baltimore, May 23, 1881, and the following history was obtained from a shipmate: He had been in perfect health until the 22d instant, when he was seized suddenly with a violent chill, followed by high fever and delirium, which passed off in a few hours. He took some purgative pills, and during the night he was troubled with nausea, vomiting a green liquid and purging. The next morning he had another chill, which was on him when he started for the hospital.

When admitted to the marine ward he was in a state bordering on collapse. His skin was cold and clammy, pulse barely perceptible, and respiration rapid. Hypodermic injections of alcohol and quinia and enemata of spirits turpentine revived him, but in two hours' time he was so delirious that it was difficult to restrain him. Bromide of potass. was given in two-gram doses every two hours, until he became quieter.

May 24, 1881.—Quieter; less pain in head; temperature, 37° ; pulse, 90; respiration, 24. He tossed from his back to his left side about a dozen times a minute. Quinia sulph., .50, and potass. bromide, 1.50, were given at 9, 10, and 11 o'clock A. M. He became more restless and delirious towards night, and chloral, 1.30, was ordered. There was no diarrhoea, but there was incontinence of urine.

May 25, 1881.—There was loss of articulation and violent pain whenever any attempt was made to move him in bed. His temperature varied frequently from 37° to 39° , and his pulse was full and rapid. Blisters were ordered to nape of neck and along the spine; also bromide of potass. and quinia, in large doses.

May 26, 1881.—Temperature, 39.8° ; pulse, 112, full and strong; respiration, 48; very delirious. 200 C. C. of blood were taken from his arm. Quinia hydrobromate, .25, was given subcutaneously, and repeated in an hour's time. Two hours after the bleeding his temperature fell to 38.5° ; his pulse to 100; his delirium subsided to a great extent. He became restless towards night. Hydrg. chlor. mite, .12, every half hour till six doses were taken, was ordered.

May 27, 1881.—Delirium less; profuse sweating; involuntary evacuations: pulse, 100; temperature, 38°; respiration, 46; an effusion into left wrist-joint, and hyperæsthesia of entire left side. An examination of urine showed the presence of chlorides and urates, but no albumen. There was no eruption. Any attempt to raise his head was violently resisted and caused slight opisthotonos. The diagnosis was at this time made of "cerebro-spinal fever."

May 28, 1881.—Left ankle swelled; frequent involuntary evacuations: feces bloody and of a jelly-like consistence; condition otherwise unchanged. Quinia and digitalis had been given freely.

May 29, 1881.—Very much weaker. Had refused his medicine and milk during the night. Fecal discharges were numerous; temperature, 36°; pulse, 100; respiration, 50. Diffusible stimulants and hypodermics of quinia, &c., and whiskey were given, but failed to revive him, and he died at noon.

Autopsy, May 30, 1881.—On removing the skull-cap, the dura mater was found comparatively dry, except *posteriorly*, where it was congested. A mass of pus, as large as a pigeon's egg, was found on the under surface of the cerebellum, extending from the median line into the right hemisphere, and pus was also seen over the upper surface of the cerebrum, and between the convolutions. When the brain was removed from the skull-cap, pus exuded from within the meninges of the cord. Four inches of the spinal cord were taken out and pus found between the meninges and cord substance, but not in such quantity proportionately as seen in the brain.

CASE 2.

J. P., aged 19 years; colored; admitted to the Marine Hospital at St. Louis, March 28, 1881. When admitted was very stupid. Would answer questions only when aroused by a gentle shake or slap. Temperature 41° C.; pulse 125, small, soft, easily compressible. Tongue dry, with a yellowish-white furry coating. Became worse, and at night was oppressed with great lethargy—became almost comatose. Could not retain anything on stomach. Remained in this state for about eighteen hours, when he became conscious. He had several such attacks subsequently, each one of less severity than the preceding one. He was suddenly seized with a severe rigor, quickly followed by febrile reaction. Patient complained of severe headache; became stupid, then delirious, not violent, giving utterance occasionally to a peculiar, sharp cry. Had staring eyeballs, and injected conjunctivæ; frequent vomiting; bowels constipated; when an evacuation did occur it was dark and offensive.

The pulse, which had been 125, fell to 80, while the fever remained high. Has had slight opisthotonos. On the night of April 17, 1881, he suddenly, without any struggle, ceased to breathe. The respiratory muscles simply ceased their action, while the heart still continued its action, the radial pulse being felt after the cessation of respiration.

Autopsy.—On opening the skull and exposing the brain and its membranes, the pia mater and arachnoid were found to have been the seat of a diffuse inflammation. The skull-cap, after being removed, was carefully examined, as was also the whole head, but no evidences of violence were discovered. Arachnoid was found to be somewhat thickened and opaque. The pia mater was found to be considerably congested, being quite red. On attempting to remove the pia mater it was found to be very friable, tearing easily, and separating from the brain in small pieces. The arachnoid cavity and sub-arachnoid spaces were filled with turbid fluid serum, its turbidity being probably due to the presence of free albumen. The quantity of fluid was about 65 C. C. The inflammatory action had extended over the whole surface of the brain, including the cerebellum, and was extending to the membranes of the cord, which showed evidences of inflammation in the upper part of the cervical region. On examining the ventricles, the lateral ventricles were found distended with fluid. They contained about 16 C. C. of a fluid resembling that found in the cavity of the arachnoid. In the lateral ventricles small bands were seen between the opposite surfaces of the ventricles, which might have been old adhesions, the result of some previous inflammation, in which there had been an effusion of lymph. About the medulla oblongata, and in the space between the posterior surface of the medulla and the cerebellum, quite a large quantity of thick fluid, almost gelatinous, and containing some blood, was found.

NOTE BY THE REPORTER.—This patient died as if a stylet had been driven through the "vital point" of the medulla oblongata. The mode of death in this case indicates that the sudden arrest of respiration was the result of the pressure on the medulla oblongata.

CASE 3.

J. C., aged 21 years; admitted to the Marine Hospital, St. Louis, Mo., January 12, 1880. Has been sick for several days; complains of a daily rigor, followed by a febrile movement; neither being at all severe; otherwise is a healthy man. On the 13th of January, 1880, he had no chill and but a slight fever, but on the morning of the 14th he had a slight chill and suddenly complained of headache; fell into a stupor; became rapidly comatose; had one convulsive attack, and died January 14, 1880.

Autopsy.—Lungs, old pleuritic adhesions; bronchi dilated. Heart normal; large clot in right ventricle. Kidneys and liver, normal. Spleen, very small, scarcely larger than one kidney. Stomach and bowels, normal. Bladder, distended with limpid odorless urine. Brain: upon removing the skull-cap, dura mater presents a mass of points from which a dark fluid-blood is oozing, and in several places is firmly bound down to the arachnoid. About 40 C. C. of the same dark fluid-blood found in the cavity of the arachnoid. Arachnoid opaque and thickened. Only a small quantity of fluid found in the ventricles.

CASE 4.

W. J., aged 38 years; nativity, England; admitted to the Marine Hospital, Bedloe's Island, April 18, 1881; died April 19, 1881. Patient was admitted on the afternoon of April 18, in a comatose condition. No history could be obtained other than that he had been ill for some time on his vessel. His condition at the time was, countenance pale, pupils widely dilated, respiration sighing, pulse weak and irregular, surface cold, and obtuseness of all the special senses. Continued in this condition during the night, and died at 4 A. M., April 19, 1881.

Autopsy, 8 hours after death.—Brain: at the base and convexity of this organ extensive deposits of lymph were found. The pia mater thickened and injected. Surface of the brain softened in patches, and ventricles contained a large quantity of serum. On section the substance of the cerebrum and cerebellum was found slightly softer in consistence than normal. All the other viscera were healthy. The cause of death was determined to be meningitis, and that he was admitted to hospital in the stage of exhaustion or coma.

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APOPLEXY, SANGUINEOUS.

CASE 1.

P. C. R., born in Sweden; aged 17 years; admitted to the Marine Hospital, Mobile, Ala., August 11, 1880, with ague quotidian; discharged August 16, "recovered." Readmitted August 31, with same disease. Brought by policeman, who found him sick in the street. During the night he grew delirious, and in the morning escaped while the nurse was at breakfast. A close search was made, and, with the help of the police, the boy was again found and brought back, September 4. All this time, so far as I could learn, he had been without food or shelter. Subsequent inquiries showed that he had gone on board a schooner at the wharf while in a fit of delirium, and that the mate had fired at him for

a thief. He ran off the vessel, removed his clothes, and swam across the river, where he remained till late the next evening, exposed naked in an open marsh to a hot sun.

When admitted the last time he was completely crazed, begging the attendants to keep the captain from killing him. Treatment made no impression. He died September 5, 1880, at 10 o'clock P. M.

Autopsy, 16 hours after death, revealed intense cerebral congestion, slight effusion, and hemorrhagic extravasation in the region of optic thalami, although while alive nothing like paralysis or loss of sensation was detected. There was more or less congestion throughout the body, but no marked changes in parenchyma of other organs.

CASE 2.

T. G., (colored,) aged 27 years; nativity, Virginia; admitted to marine ward, St. Joseph's Hospital, Baltimore, Md., February 28, 1880, in an unconscious condition. He had a chill on the 26th instant, became unconscious in a short time, and remained in that condition, on his vessel until the morning of the 28th. He had taken no medicine or food, and he had had constant twitching of his legs, and only gave evidence of his great suffering by continual groans.

When admitted his temperature was 38°; pulse, 120, full and strong; respiration, 24. There was throbbing of the carotids. The veins of neck and forehead were full and prominent; his head much hotter than his body. His heart-sounds seemed normal, and an examination of his lungs gave no indication of his trouble. His symptoms seemed to point to congestive apoplexy, and attempts were made to relieve the condition of his brain by means of wet cups, blisters, croton-oil, &c.

He died twenty hours after his admission. His right side was paralyzed during the night he was in hospital.

Autopsy, March 2.—Lungs were in a healthy condition; a few old and very fine pleuritic adhesions were found. The pericardial sac contained 150 C. C. of a sero-purulent fluid, in which flocculi, recent lymph, were seen floating. There was no evidence of endocarditis, and the valves were healthy. Evidences of acute pericarditis were found. The amount of fluid, however, was not sufficient to cause any perceptible increase in the area of dulness. The scalp was congested. On opening the dura mater a large amount of serous fluid escaped. The ventricles were full of the same fluid. Shreds of lymph were numerous over the surface of the cerebrum. No emboli were found. The venous congestion was very great in every portion of the brain. A small portion of the upper end of spinal cord was examined, and it presented the same congested appearance as was found in the brain.

WHITE SOFTENING OF THE BRAIN.

R. C., aged 43 years; born in Massachusetts; admitted to the Marine Hospital, Mobile, Ala., January 12, 1880; apparently suffering from general privation. Patient had been in hospital at this port from October 10 to December 17, 1879, suffering with abscess of the gluteal muscles, left side. He had been operated on in the Massachusetts General Hospital, about six months previously, as he said, for a tumor of the same region. When discharged, he shipped immediately, but did not do duty long, as was subsequently learned.

January 12, 1880.—When admitted the last time, it was learned that he had not been to his boarding house for several days, and had been probably wandering about the streets.

January 13.—Pulse feeble; slightly increased; temperature, normal; in a state of profound hebetude; visited at midnight; found dying; pulse rapid, but feeble; pulmonary œdema, very great; loud gurgling râles in primary bronchi; heavy stupor, indicating cerebral disturbance. Death occurred January 14, at 7 o'clock A. M.

Autopsy.—Brain congested, not to marked extent; meninges and cortex displayed nothing peculiar, but in the middle fossa, near the bone, there was a circumscribed region in a state of white softening. The brain trouble, though unsuspected, had probably been coming on for sometime. Heart, normal; lungs, excessively engorged; bronchioles and bronchi filled with bronchial secretion. Nothing peculiar about other organs.

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TUMOR OF THE BRAIN.

CASE 1.

W. Y., aged 28 years; nativity, Sweden; admitted to the Marine Hospital, San Francisco, Cal., April 7, 1880.

History.—About three months previous to admission, was seized with pains in region of forehead while on the voyage to his port. He was obliged to lie in bed, and from increasing weakness was unable to get up. A fortnight before arrival he became totally blind, was much emaciated and quite helpless. Incontinence of urine supervened, but apparently not from paralysis.

Symptoms and progress.—No paralysis of the muscles of the eye, but the pupil was dilated. It was strongly suspected that masturbation had contributed to his general prostrated condition. The progress was unfavorable, and the patient died April 15, 1880.

Autopsy.—In the apex of the left lung there were tuberculous deposits with abscesses, but otherwise his lungs were healthy, and this trouble seemed to be insufficient to cause death. His kidneys showed some congestion. On examination of the brain there was found a large amount of fluid in subarachnoidean space and other cavities. The optic nerve and other parts at the base of the brain, together with the cerebrum, seemed normal, otherwise than the hydrencephalus mentioned. In the left lobe of the cerebellum there was found a tumor or cluster of tumors of strumous character. They were of a firm cheesy consistence, of a pale-yellowish color, surrounded by a margin of whitish softening, altogether of the diameter of over an inch, and embracing the whole of the corpus dentatum of the left hemisphere.

CASE 2.

J. P. O.; nativity, Sweden; aged 35 years; admitted to Marine Hospital, San Francisco, May 1, 1875. (1) gastritis; (2) organic lesion of brain.

History.—Intense headache, loss of appetite, and vomiting for some time.

Symptoms and progress.—No fever. The primary symptoms increased in severity, and the diagnosis of gastritis was made. Palliative treatment was adopted and the patient at one time appeared convalescent. This was but temporary; a state of stupidity and melancholia ensued, followed by involuntary discharges of feces and urine. At this stage a new diagnosis of organic cerebral lesion was substituted for gastritis. He continued in this condition for three months, keeping his bed and taking nourishment from the spoon. Masturbation was practised when unobserved. All these symptoms continued to utter demoralization of mind and body, ending in death.

Autopsy.—A tumor was found in the right anterior lobe of the brain, under surface, about the size of a hen's egg, hard, and presenting a smooth-cut surface. No other abnormal changes found. The tumor was circumscribed and distinct from the surrounding brain substance.

HEMIPLEGIA.

CASE 1.

W. D., admitted to the Marine Hospital, San Francisco, April 5, 1880. Diagnosis: Hemiplegia.

History.—Two weeks previous to admission, while in an intoxicated condition, he had fallen some twenty feet, striking on the gunwale of

a boat. No external injury was apparent, but he was confined to bed for a fortnight. He shipped at the expiration of that time, but had an attack of hemiplegia, for which he was brought to the hospital.

Symptoms.—Feverish, (temperature 39.5° C.,) dry tongue, and typhoid condition generally. This soon disappeared, but was followed by coma. The patient died April 14, 1880.

Autopsy.—The surface of his lung showed ecchymoses of blood. While cutting into the lung showed there had been hemorrhage into the lung substance, which had accumulated in the bronchi, which probably was the immediate cause of death. The examination of the brain showed congestion of its membranes and some adhesions of the dura mater to the cranium along the superior longitudinal sinus. There was also a spot in the right hemisphere of the cerebrum in the medullary substance above the corpus striatum, and extending downwards toward that body, which showed softening of the yellow variety. The fluid contained in the lateral ventricle of the same side was in excess of normal. These findings explained the cause of the symptoms of the case. The softening of the brain on the right side, with effusion into the lateral ventricle, affecting the motor tract at the base of the brain, produced the hemiplegia of the right side. The softening was probably caused by an embolus blocking up the artery supplying nutrition to the part, which was probably carried from the injured lung. The injury sustained by the lung was the apparent cause of fever.

MANIA.

W. H. G.; nativity, United States; aged 24 years; admitted to the Marine Hospital, Bedloe's Island, December 10, 1880; died December 23, 1880. When patient entered he was in good physical condition, but could give no history of himself. His friends said he had been acting strangely for several weeks; at times violent. Had many delusions, and complained of violent headache at times. Passed urine and feces in bed. Several times he destroyed everything within reach. An impairment of locomotion very perceptible. December 22, breathing became stertorous, and subcrepitant râles heard on both sides of chest. Next day he became comatose, with quick pulse and high temperature, and died.

Autopsy.—Brain, (cerebrum,) surface much congested; thin, horizontal sections of brain were made; about 2 C. C. of serous fluid was found in lateral ventricles. The choroid plexus contained a vein much

enlarged; the surface of right lateral ventricle was roughened. Cerebellum was surrounded by considerable fluid; otherwise normal. Medulla apparently normal. Pericardium, great excess of fluid. Heart normal. Lungs, intense congestion, with much œdema. A cavity was found in the apex of right lung, apparently due to a pneumonia, which progressed to purulent infiltration. Pleura, normal. Liver, somewhat enlarged.

The diagnosis on admission was acute mania. Cause of death was passive hyperæmia and œdema of lungs.

PERICARDITIS.

W. R., aged 27; native of Finland; was brought to the United States Marine Hospital, Chelsea, from bark "Carrie Humphrey," June 12, 1878. He stated that he had been sick about fifteen days, and was lately from Calcutta. When admitted he was suffering from dyspnœa; short cough; spitting of blood in considerable quantities. He was deeply jaundiced, and his urine contained albumen. Although conscious, his intellect was not clear. Pupils normal; temperature normal; pulse rapid and weak; legs and feet œdematous; lips livid. He was placed in bed in a sitting position; bottles of hot water were applied to the sides, and sinapisms enveloped his legs. By the next morning the hæmoptysis had entirely disappeared, but the dyspnœa still continued. The heart-sounds were normal in character, but very indistinct. These symptoms continued without material alteration until his death, which occurred, at 11 P. M., June 15.

Autopsy, 10 A. M., June 16.—Rigor mortis marked; legs œdematous; many blisters on posterior and inner aspect and about ankles; heart, large; somewhat dislocated to right; apex tilted up; clear serum in pericardium; right walls thin, friable, pale; left, normal in thickness. Both lungs œdematous; pleura free from adhesions; not otherwise abnormal. Liver much enlarged, extending nearly across the abdomen; under surface deeply congested, of indigo-blue color, friable. Spleen normal in size; on under surface of same, indigo-blue, as noticed in liver. Intestines inflated; congestion throughout portal circulation; comparatively little fluid in abdomen. Kidneys: integument thickened and adherent, substance pale, cortical substance diminished and fatty.

ENDOCARDITIS.

CASE 1.

R. B., aged 23 years; nativity, England; admitted to the Marine Hospital, Chelsea, Mass., June 9, 1879. Diagnosis: Endocarditis.

• The disease followed the usual course, being treated with alkaline resolvents, (I K., &c.)

When the febrile symptoms were removed, the patient was left with considerable cardiac oppression and dyspnœa, sledge-hammer pulse, and murmur over the base of the heart with second sound.

Dyspnœa gradually increased, and œdema of feet and ankles appeared; and at last general dropsy (anasarca, ascites and hydrothorax, with pulmonary œdema) supervened.

Died, suddenly, July 24, 1879.

Autopsy.—Large effusion (from 3,000 C. C. to 4,000 C. C.) in pleural cavity; lungs compressed and congested; normal amount of fluid in pericardium; heart much enlarged, about three times normal. All the valves healthy except the aortic, which were much enlarged, thick, rough, and projected *into* the ventricle. Only two semi-lunar valves could be found; one apparently formed by the coalescence of two, loose at the edges and inefficient.

Specimen preserved.

CASE 2.

Endocarditis, with valvê disease of the heart.

A. P., aged 34 years; American; admitted to the Marine Hospital, Cleveland Ohio, April 22, 1881; permit No. 115. Diagnosis: Valve disease, mitral; died June 13, 1881. No evidence could be obtained of the patient having ever had rheumatism, or any acute or chronic disease. There never had been any acute or painful attack. The disease was supposed by the patient to have been coming on for six months or a year. It had come on so gradually that the patient was unable to fix any date for its commencement. His previous health had always been excellent. Upon admission he was suffering with shortness of breath, some cough, general anasarca, and jaundice. His pulse was rapid and feeble, and at times intermittent. There was a double bruit heard most distinctly over the mitral valve. The natural sounds of the heart could be heard but faintly and imperfectly.

Autopsy.—Upon examination of the heart there was found a small collection of serum in the pericardium. The heart was enlarged to a

little more than twice its natural size. On opening the heart a condition of chronic endocarditis was found, affecting the mitral and aortic valves. These valves were thickly studded with calcareous deposits, especially on their ventricular surfaces. The valves were contracted, stiffened, and thickened, and unable to properly close. The valves of the right side were normal.

VALVE DISEASE OF HEART.

CASE 1.

J. P., aged 45 years; nativity, Italy; was admitted to the marine ward, Hotel Dieu, New Orleans, La., July 2, 1880. Patient suffering from dyspnœa; respiration rapid; pulse feeble; both sounds of heart distinct, and no murmurs. Could not lie down. No dropsy. Pulse became more feeble, and respiration increased. Digitalis, stimulants, and tonics were given, but the patient died July 12, 1880.

Autopsy revealed dilatation of right ventricle and auricle, especially the latter, but the valves were normal in appearance. The heart was not fatty, but its walls were very thin on right side. The lungs were not diseased.

CASE 2.

J. B.; nativity, England; aged 33 years; admitted to the Marine Hospital, San Francisco, December 9, 1878. Mitral insufficiency, &c.

Physical examination.—Apex beat diffused and outside of mammary line. Murmur loudest at apex beat, and synchronous with systole.

Treatment.—Tincture digitalis, (8 ms. t. d.,) which was discontinued after two weeks. At this period a murmur at base of the heart, diastolic, with visible movements of the superficial arteries, was noted. Patient died February 18, 1879.

Autopsy.—Atheromatous condition of commencement of aorta, involving endocardium, aortic, and mitral valves, causing insufficiency of these. Os of aorta was somewhat constricted.

CASE 3.

C. M.; nativity, Sweden; aged 31 years; admitted to the Marine Hospital, San Francisco, December 2, 1878. Mitral insufficiency.

Symptoms.—Gastralgia, dyspnœa, coughing, and vomiting.

Physical examination.—The usual signs of insufficiency of the mitral valve were discovered at first, and later the phenomena of aortic regurgitation.

Treatment.—Tincture digitalis, (8 ms. t. d.,) and on March 12, 1879, paracenteses abdominis was performed. The incision was left open, and 20 litres of fluid escaped from the wound from the time of opening. Patient died April 25, 1879.

Autopsy.—Calcification of aortic and mitral valves, with regurgitation in both. Heart dilated in left side.

CASE 4.

Aortic and mitral disease, hypertrophy and dilatation of heart.

J. T., aged 23 years; admitted to the Marine Hospital at St. Louis, March 15, 1880. On admission complained of oppression at the chest, breathlessness, speedy exhaustion on exertion, headache, cough, and inability to sleep. Urine scanty, containing albumen. The dyspnoea was extremely severe, and intolerant of any exertion. Subsequently the inability to sleep became very distressing, the patient not being able to sleep in the recumbent posture. Died April 9, 1880.

The following is the record of his examination on admission:

“Inspection.—General anasarca. Scrotum largely swollen. Lividity of the face. Pulsation at the root of the neck and in the line of the carotids. Impulse visible over the greater part of the left chest.

“Palpation.—The cardiac impulse is very forcible. Conveys a feeling of diffused impulse from a large mass apparently being thrown into contact with the thoracic walls. Point of the apex-beat carried downwards and outwards to the seventh interspace, beyond the line of the nipple.

“Percussion.—Increased general dulness, superficial and deep, from the second interspace to the eighth rib, and from an inch and a half to the right of the sternum to three inches and a quarter outside the vertical line of the nipple.

“Auscultation.—An aortic obstructive and mitral regurgitant murmur heard.”

Autopsy.—Body, general anasarca, ascites; lungs congested; old pleuritic adhesions; heart enormously hypertrophied and dilated. The aortic orifice was narrowed, the valves thickened and covered with vegetations. The mitral valve was thickened and insufficient. Kidneys, fatty and contracted. Cortical substance diminished. Capsule adherent. Liver enlarged, congested, and fatty. Spleen large, soft.

NOTE BY THE REPORTER.—It is probable that the initial cardiac lesion was aortic obstruction; then hypertrophy of the left ventricle, followed by dilatation. Each systole leaving a little blood in the left ventricle, the blood accumulated in the left auricle, causing dilatation of the auricle. The dilatation of the left ventricle, causing the mitral valve to be inefficient, and permitting mitral regurgitation.

CASE 5.

Valve disease of aorta.

C. S., aged 23 years; nativity, Ohio; admitted to marine ward, St. Mary's Infirmary, Cairo, Ill., January 28, 1881. Recorded diagnosis: "Valvular disease of the heart." Died January 29, 1881. He was visited at the boat about 12 o'clock, January 28, 1881; said that he had had hemorrhages for six days; slight dyspnoea, which he said was greater on exertion; slight cough; stated that he never had rheumatism; no oedema of feet and has had none; did not consider himself ill. Physical examination showed aortic and mitral regurgitation, very marked, and cardiac hypertrophy. Died about 1.30 P. M. next day, suddenly; rose from a chair and fell.

Autopsy, 16 hours after death.—Large collection of fluid in pleural cavities, and many old adhesions on both sides; 196 C. C. of serum in pericardium. Heart very much enlarged; the coronary arteries are "beaded" with plaques of a hard, brittle material in their walls; mitral valve intact, but insufficient; of the aortic valves, one almost absent, one about one-third gone, and one consists of two nodules rather larger than large peas, of chalky matter, united by pedicles to the valve-rim; hard plaques in the aorta, in some places projecting .005 metres; no perceptible change in the external coat; some plaques in carotid, subclavian, and radial arteries. Kidneys appear healthy on microscopic examination. No other organs examined.

CASE 6.

R. J., aged 50 years; nativity, Maine; admitted to the Marine Hospital, Chelsea, Mass., April 21, 1879, and disease diagnosed and recorded as "valvular disease of the heart," and the particular lesion as "insufficiency of the aortic and mitral valves."

May 11, 1879, the patient died from apnoea.

Autopsy of thoracic organs.—A very large amount of clear fluid in the pleural cavity, with a few adhesions, some recent and some of older formation. About 100 C. C. of clear fluid in pericardium. Except a few hard nodules in the apices, the lungs are healthy. Heart considerably enlarged; not weighed; the valves at the mitral orifice contracted and rugose, with wart-like excrescences, not holding water; the aortic valves in a similar condition; pulmonary and tricuspid valves with slight atheromatous deposits, but close fairly. The aorta showed a

sacculated aneurism, the size of a walnut, about .01 m. above the valves, and was markedly atheromatous from the commencement of the arch to the end of the thoracic portion. Specimen preserved.

CASE 7.

L. H.; nativity, Norway; aged 40 years; admitted to the Marine Hospital, Bedloe's Island, February 19, 1881; died February 21, 1881. The patient came in complaining of dyspnœa, which he had had for several years. He had general anasarca and could not lie down, owing to intense shortness of breath. Upon examination he was found to have mitral regurgitation and an aortic, direct, and regurgitant murmur. Large subcrepitant râles were heard over entire surface of chest. Had tenderness over hepatic region. He died from exhaustion and œdema of lungs.

Autopsy.—Plural cavity contained a quantity of water. Lungs, œdematous, water flowing freely from cut surface. Pericardial sac contained much water. Heart much dilated, with but little compensatory hypertrophy. Mitral valve fenestrated, thickened, and contracted. Aortic valve much contracted and thickened, one segment being fenestrated and another appearing as a nodule, having no appearance of a valve. Tricuspid and pulmonary valves, normal. Abdomen contained much fluid. Intestines distended with gas. Stomach appeared dilated, and contained dark, grumous fluid. Liver had undergone fatty degeneration. Spleen diminished about one-half in size; consistency, soft. Anterior border nearly normal in length, but posterior border much thinned, and at lower part presented a large notch, as though a portion had been torn away and the wound had healed with contraction. Just above this, and a little to the outer side, was a spot of ecchymosis, about the size of an almond.

CASE 8.

C. S.; nativity, Denmark; aged 23 years; admitted to the Marine Hospital, Bedloe's Island, November 30, 1881; died February 13, 1881. When admitted the patient was anæmic and nervous. The clinical history and physical examination showed mitral stenosis and regurgitation. He got in a very fair condition under the use of remedies until February 3, when an attack of pneumonia set in, which seemed to be disseminated. The patient soon went into a typhoid condition, and in a few days died, with panting respiration and great jactitation.

Autopsy.—Pericardial sac contained great quantity of serous fluid. The parietal layer of pericardium was roughened; heart much enlarged;

the mitral valve had nearly disappeared, being adherent to endocardium, and was much thickened. The aortic valve had one of its segments much fenestrated. Tricuspid valve was much thickened and contracted. Pulmonary valve had one segment fenestrated. The heart muscle was much lighter and the walls thinner than normal. The cavity of the heart contained very large ante-mortem clots; pleuræ, normal. Lungs: seat of pneumonia, which had not undergone resolution; there were various points of suppuration; this condition was found in both lungs. Kidneys appeared normal, with exception of one or two spots, viz: In left kidney was a crescent-shaped fissure over the base of a malpighian pyramid, which seemed to separate it from the cortex; also there was found a small canal, about one-half line in diameter, in the cortical substance, which appeared to be a dilatation of one of the uriniferous tubules.

CASE 9.

W. S., aged 42 years; nativity, England; admitted to the Marine Hospital at San Francisco, August 11, 1880. Heart disease, (mitral and aortic.)

History.—Nothing of special note beyond the usual complaint of "short breath."

Symptoms and progress.—Eleven days after admission passive cerebral congestion began, and mania ensued, and he was discharged by request of friends. Readmitted five days later in worse condition than before, and till death (September 26) he was completely insane.

Autopsy.—Atheromatous condition of the aortic and mitral valves, continuous from one to the other. Hypertrophy of the walls of the heart.

CASE 10.

H. D.; England; aged 56 years; admitted to the Marine Hospital at San Francisco, September 25, 1880. Heart disease, (mitral and aortic.)

History.—When admitted had been sick for a number of weeks with dropsy of legs and abdomen.

Symptoms, progress, and treatment.—He was treated with calomel, digitalis, and squill, and the hot-air baths; but this plan, persisted in for many days, failed to develop one favorable response. Death occurred October 12.

Autopsy.—There was found an atheromatous condition of the left ventricle, extending from and including the mitral and tricuspid valves, causing insufficiency of both.

CASE 11.

Tricuspid regurgitation.

S. R., aged 51 years; admitted to the Marine Hospital at St. Louis August 10, 1880. Has always called himself healthy; has never had rheumatism, except a slight trouble in one elbow after much exposure thirteen years ago; of late has been obliged to make water very frequently; has had rectal trouble for past seven years; was supposed to have piles, or to be threatened with anal fistula; bowels habitually constipated; never had epistaxis, hæmatemesis, or hæmoptysis; states had yellow fever twice. About three months ago he first noticed shortness of breath, and at the same time was troubled with hæmorrhoids and bleeding from the rectum; during this time has had more or less dyspeptic symptoms, distension of abdomen, fullness after eating; has had no swelling of the feet; no palpitations; has slight cough, especially at night. After admission to hospital, began to have swelling of the feet and legs, which has extended upwards; has cyanotic hue of face, puffy eyelids; dyspnœa intense, amounting to orthopnea. Is a powerfully-built man; all the superficial veins of chest are distended, and there is a marked pulsation of the jugulars. Pupils equal. Pulse-waves small, but arteries are hard, giving the sensation characteristic of the early stages of atheroma; pulse very irregular; well-marked *arcus senilis*. Thorax, though well-covered with muscle and fat, gives everywhere increased resonance on percussion; apex beat is two inches below and to the left of the nipple; it is forcible; impulse of heart shakes the mamma, but there is no heaving of precordia; there is pulsation of epigastium, evidently transmitted from the heart; there is no pulsation of liver, nor excessive aortic impulse; a systolic murmur, harsh in character, is heard with greatest intensity at the median line, over the sternum, on a level with the fourth and fifth ribs; it becomes fainter towards the left, and, if the patient remain quiet, it is completely lost at the apex, where it is replaced by a pretty distinct first sound; it is not heard at the aortic interspace nor over the sternum at that level; it can be heard for a short distance to the right of the sternum in the line of the fifth and sixth interspaces.

The patient lingered until January 28, 1881, when he died.

Autopsy.—Body: general anasarca; ascites. Lungs much congested; pleural cavities containing serum. Heart: right auricle and ventricle hypertrophied and dilated; tricuspid valve very much thickened and insufficient; mitral valve thickened and insufficient. Liver and spleen congested. Kidneys fatty and contracted; hard, and yellowish colored; cortical substance reduced; capsule adherent.

CASE 12.

J. K., aged 38 years; nativity, Newfoundland; admitted to the Marine Hospital, Chelsea, Mass., October, 1878. Irregular and excessive action of heart; dyspnœa and pain.

October 23, he had vomiting "spells;" the 28th, his legs were bandaged for swelling; and on November 15, legs and feet were punctured, giving vent to a large amount of serum; November 10, had suppression of urine and diminished secretion, to time of death, which occurred November 21, 1878.

Autopsy.—Heart: 24 C. C. serum in pericardium, heart itself considerably enlarged, especially left ventricle; auricles very small proportionally; aorta, for, say, three inches from heart, much thickened and enlarged, and just above aortic valves, and at them, presented a slight bulging, analogous to aneurism; aortic lining membrane fairly healthy; cardiac valves healthy, except that, on account of the enlarged aorta, the aortic valves were insufficient; no rupture; aorta otherwise healthy. Lungs somewhat congested and œdemateous, otherwise healthy; about 192 C. C. serum in each pleura. Abdomen: say three litres of clear serum in cavity; stomach, spleen, intestines, and bladder, normal. Liver of normal size, but pale and granular. Kidneys, large and injected, not otherwise abnormal. Head not examined.

CASE 13.

T. E. was admitted to the marine ward, St. Mary's Hospital, Evansville, Ind., September 7, 1880.

He had been in hospital sometime previously for chronic cystitis, but no reference was made to heart trouble. He gave a history of severe attacks of rheumatism, from which he suffered about three years prior to his admission to hospital. His statements were also to the effect that he for many years had been addicted to the excessive use of alcoholic drinks. Respiration was labored; there was pulsation of the jugulars, prostration, night-sweats, and rapid, weak, irregular pulse. No ascites nor anasarca was present, and no uneasiness was occasioned by the dorsal decubitus. Auscultation indicated pericardial effusion, and a loud diastolic and systolic bruit. The systolic sound was loudest at the apex, and the diastolic over the margin of the sternum in the left third intercostal space.

The patient died September 8, 1880, and on the following morning an *autopsy* was made by the medical officer. On opening the chest, the pericardium was found to contain about 500 C. C. of serous fluid. The left side of the heart was greatly hypertrophied; the mitral valve was

greatly contracted; the aortic valves were almost entirely destroyed, offering no resistance to free regurgitation. The fragmentary remains of these valves had a warty appearance, and were very friable. On the surface of the endocardium was found marked evidence of a previous inflammation; its surface around the aortic orifice and the tunica intima of the aorta just beyond the orifice were roughened from old lymph deposits. It was plain that the aortic valve had been destroyed, as a consequence of the previous endocarditis. The margins of the mitral valve were covered with a bead-like exudation of plastic lymph. The cavities of the right auricle and right and left ventricle contained quite a number of large, old, organized clots, and several of recent formation. The tricuspid valve was normal, as was the entire right heart, with the exception of the contained clots.

FATTY AND CALCAREOUS DEGENERATION OF CEREBRAL ARTERIES.

Cerebral hæmorrhage.

P. B., aged 50 years; admitted to the marine ward, Jefferson College Hospital, Philadelphia, December 20, 1880; died January 14, 1881. Had suffered with severe headache and vertigo for past three years, during which time he has been treated for dyspepsia, cancer, *et alii*. Gait, on admission and for sometime, noticeably staggering. Had a "fit," apparently epileptiform, in August, 1880, and one later. Not able to attend to his work. Complains of pain and swelling in abdomen after eating; burning pains in epigastrium; nausea and vomiting occasionally present; abdomen tender to touch; tongue broad, flabby, deviating on being protruded to the left; lips tremulous when attempting to speak. Ophthalmoscopic examination of the eye shows a very red disk and patches, indicative of Bright's disease of the kidneys; passes about two litres water in the twenty-four hours, containing albumen and a trace of sugar. Family history: father, two brothers, three sisters, each died suddenly, but cause of deaths the patient did not know.

Treatment.—"Basham's mixture," 5 C. C. before each meal, (thrice daily;) iodide of potass., 0.65 gm. after each meal; good diet. Improvement seemed rapid. On the morning of the day he died, he expressed himself as feeling better than at any time for the past three years. About 6 P. M. he fell from his chair comatose; breathing stertorous, inspiration snoring; expiration accompanied by flapping of

cheeks. Pulse slow, full, irregular; pupils dilated. Was given 0.1 gm. croton-oil on tongue; large amount of urine withdrawn by catheter. Patient vomited freely. Coma passed off in about one hour. Appeared to understand what was said to him; could articulate very indistinctly, but so as to be understood. He kept right arm and leg in constant motion until 10 P. M., up to which time his left side seemed paralyzed. Death at 11 P. M., January 14, 1881.

Autopsy, 12 hours after death, showed the heart very much enlarged, soft and flabby; lungs slightly emphysematous; kidneys small, contracted; liver and spleen normal; stomach in good condition; large clot in right lateral ventricle of brain; atheromatous degeneration of all the cerebral arteries.

ANEURISM.

CASE 1.

P. E. was admitted to the United States Marine Hospital, Chelsea, Mass., Monday, June 24, 1878, suffering from palpitation and irregular action of heart. His intellect was good, digestion fair, but complained of pain over epigastric region and in the loins. Pulse 120. No murmur was perceptible over the præcordia, nor was any to be heard; but he was unable to lie down at night. He continued in this condition until July 16, when, under the supposition that aneurism was probable, from the symptoms, he was carefully examined by three medical officers, but nothing could be found to positively set the diagnosis at rest. The patient continued growing weaker, his digestion failed him, and the pains were daily more severe. There was no cough, but on the 23d July a murmur, apparently regurgitant, was heard on right side of and above the nipple. The diagnosis was changed to valve disease of heart, under supposition that the aortic semilunares, and perhaps the mitral, were diseased. The case continued without material alteration, except that at night he frequently woke with fright and violent pain, and the symptoms of aneurism were unmistakable, but no bruit was ever heard. He died at 3 A. M., August 18, 1878.

At the *autopsy* it was found that a large aneurism of the aorta existed near the diaphragm, just above the celiac axis. The sac was fully as large as a hen's egg, and had burst upon the anterior surface. The wall of the sac was fairly organized, and the parts in relation with it—the diaphragm, stomach, transverse colon, and head of pancreas were agglutinated to it. There were about 2 litres of clotted blood

in the peritoneal cavity. The other organs were normal in appearance. The head was not examined. The aorta, showing the aneurism, is preserved in the hospital museum.

The absence of the bruit is explained by the fact that, as the sac grew, it was compressed by the diaphragm at its aortic opening.

CASE 2.

Aneurism by dilatation, with phthisis.

C. F. * * * Admitted to the Marine Hospital, Chelsea, Mass., August 12; died October 1, 1878.

Autopsy.—Thorax; pericardium distended with fluid, about 192 C. C. The left *ventricle* of the heart contained recent clots and fluid blood; the right ventricle was dilated to a mere membranous pouch. The aortic valves were healthy; the right side of the heart was dilated and the walls thinned; a large aneurism was found occupying the entire arch of the aorta, which would contain about 500 C. C. This aneurism was formed by dilatation of the vessel in all directions; on the posterior superior wall organized clots were seen. The physical sign of dulness over the upper part of the sternum was explained. No bruit was heard during life; the arterial pulsations throughout the body were very feeble; the brachial could not be felt, and the right radial pulse was scarcely perceptible, the vis-a-tergo from the heart's action being overcome by the enormous aneurism. The man had all the physical signs of phthisis; he had nummular sputa, which towards the end of his life became greenish and contained pus. On examination the lower lobe of the left lung was found to be hepatized and small abscesses seen through its substance; the whole of the right lower lobe contained disseminated tubercle. The apices of both lungs were apparently healthy. The right kidney was hypertrophied. The other organs of the body were normal in appearance.

CASE 3.

J. R.; nativity, Italy; aged 38 years; admitted to the Marine Hospital, San Francisco, December 2, 1879. Aneurism of aorta.

Physical examination.—Superficial beating of large arteries of neck, with bruit heard over heart, extending upwards along course of aorta. Percussion and auscultation showed enlargement of heart. Patient died December 9.

Autopsy.—Aneurism at commencement of aorta, the atheromatous condition of the walls of which had extended to and involved one of the semi-lunar valves, thus allowing regurgitation, which caused hypertrophy of left ventricle.

CASE 4.

J. B., aged 23 years; England; admitted to the Marine Hospital, San Francisco, August 28, 1877. Fusiform aneurism abdominal aorta.

History.—Excruciating pain in affected region for six weeks previous to admission, for which anodynes had been taken.

Physical examination.—Dulness on percussion one inch below ensiform cartilage and strong pulsation visible to naked eye. The aneurismal thrill was distinct on auscultation. No similar sounds accompanied beating of heart.

Treatment.—Anodynes and knee-elbow position, which gave temporary relief. Died September 27.

Autopsy.—Aneurism size of fist, upper portion of abdominal aorta; other organs healthy.

CASE 5.

J. C., aged 49 years; admitted to the Marine Hospital, St. Louis, February 26, 1880. Has enjoyed very good health until about eight years ago when he suffered from an attack of kidney disease, following exposure to cold. Suffered from syphilis over 30 years ago. Has been a very hard-working man, exposed to the inclemencies of the weather, and very intemperate. In the winter of 1878 was troubled with cough and difficulty of breathing, but was able to work until about three months ago when he was seized with severe cough, dyspnoea, difficulty in going up stairs, restlessness with frequent startings and frightful dreams, swelling of the feet and legs, and ascites. He died March 4, 1880.

CLINICAL EXAMINATION.—“*Inspection.*—Anasarca, principally of lower extremities; ascites, no especial prominence of cardiac region; slight pulsation at the root of the neck; apex beat indistinctly visible.

“*Palpation.*—Impulse conveys an undulatory sensation to the hand, and the force of successive beats is unequal. When the hand is applied over the region of the apex beat, it does not feel the beat always strike at the same place. An impulse is felt at the supra sternal notch. Pain on pressure just below sternum, and tenderness over region of the liver.

“*Percussion.*—Dulness on percussion from about one-half an inch to the right of the right of the sternum, at the upper part, to about two inches to the left of the bone; and from the third rib to the seventh interspace; also increased area of dulness over the region of the liver.

“*Auscultation.*—The heart-sounds are muffled and indistinct; an aortic-regurgitant murmur is heard at the base of the heart and along the sternum, faintly transmitted to the carotids; a murmur is heard at the

apex; this murmur is diffused over the left side of the chest; it is indistinct, but with great attention can be detected behind near the lower angle of the scapula."

Autopsy.—Body: general anasarca; head and neck livid. Lungs very much congested; patches of pulmonary apoplexy; old pleuritic adhesions. Heart hypertrophied, dilated, and evidences of fatty infiltration. Pericardium fluid in sac. Aorta: a large aneurismal tumor was found, embracing the ascending and transverse arch; the internal coat largely calcified, and this calcification extended far down into the descending aorta, where it was most marked, as shown in the drawing, Fig. 2; aortic and mitral valves thickened, covered with vegetations,

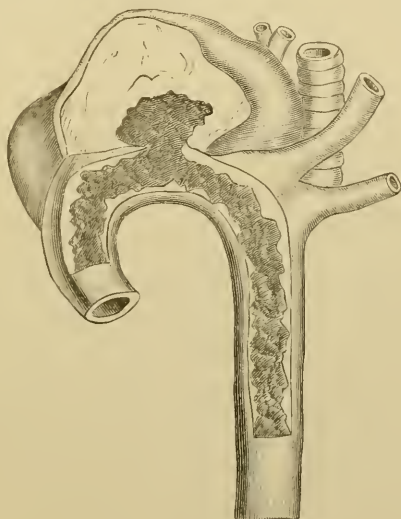


FIG. 2.

and insufficient; all the heart valves were more or less disorganized; columnæ carneæ thickened. Liver enlarged, congested; capsule adherent. Spleen enlarged, softened. Mesentery and bowels injected; present evidences of recent inflammation; abdominal cavity filled with fluid. Kidneys small, contracted; capsule adherent.

NOTE BY THE REPORTER.—This was, probably, originally a case of chronic endocarditis resulting in atheroma, and so giving origin to aneurism.

CASE 6.

J. J.; nativity, England; aged 37 years; admitted to the Marine Hospital, San Francisco, June 9, 1881. Aneurism of aorta.

History.—None obtained, as he was in *extremis* when admitted. Death occurred the next day.

Autopsy.—Aneurism of descending aorta above diaphragm, lying on bronchial tube, into which it burst. The blood had also found its way upwards beneath the deep fascia into the neck.

CASE 7.

M. H.; Sweden; aged 50 years; admitted to the Marine Hospital, San Francisco, May 26, 1881.

Progress and treatment.—He was given digitalis in the usual doses, but with no beneficial results; and soon passive congestion of the brain followed with the accompanying delirium. He remained in this condition for a fortnight, when death ensued, June 12, 1881.

Autopsy.—Dilatation of aorta with atheromatous degeneration, and valvular (aortic) insufficiency from dilatation of os, without degeneration.

CASE 8.

J. F., admitted to the Marine Hospital, San Francisco, December 18, 1878.

Diagnosis.—Aortic insufficiency.

Treatment.—Paracentesis abdominis performed by surgeon in charge, and 550 C. C. of fluid withdrawn, December 23. This was resorted to again February 6, 1879, but patient died February 28, following.

Autopsy.—Calcareous condition of os of aorta, with thickening of valves, (semi-lunar,) allowing regurgitation. The heart was also hypertrophied. The immediate cause of death was the formation of a clot in left ventricle, which, doubling upon itself into the aorta, completely shut off the flow of blood from ventricle.

CASE 9.

Of the innominata.

P. S., aged 30 years; native of Manila, apparently of Chinese parentage; was originally admitted to the United States Marine Hospital, Chelsea, Mass., August 2, 1879, with a pulsating tumor located to the right of the sternum, and in the situation of the arteria innominata at its origin. The tumor projected slightly between the ribs, was about two inches in diameter, pulsated so as to be plainly seen and felt, and gave out a murmuring sound on auscultation. He had not much pain, but had palpitation of heart and dyspnœa on exertion, so that he was obliged to leave his vessel and come to hospital. The affection had existed a number of months. The exact time could not be determined, as the patient spoke our language very imperfectly.

The diagnosis of aneurism of the arteria innominata was made; and rest, potassium iodide internally, were prescribed. He also took at times P. R. N. tincture digitalis, or iodide of cinchonidia. Under this treatment he seemed to improve, his general health was good, and the tumor appeared to decrease in size, and became invisible externally, though the murmur and pulsation could be distinguished by auscultation. About this time he asked to be discharged, and his request was granted, January 27, 1880; but, on February 7, 1880, he returned to the hospital in a worse condition than when first admitted. The tumor was again to be seen pulsating between the ribs, and the difficulty of breathing was much increased, whilst he had also pain, especially in the right side of chest and right arm. He was placed again on the same treatment as at first, and again began to improve. The pain, however, remained pretty constant, and was at times severe.

After a month or so, the tumor, as before, disappeared from view, that is, the pulsation and slight elevation which had existed could not be seen, and soon the murmur was diminished, and there appeared to be a decided attempt of nature to effect a spontaneous cure. This condition of things continued perhaps three months, when he began to complain of more pain in the chest, and now in both arms, as well as increasing dyspnoea. The tumultuous sound increased in loudness, and was heard over a greater extent, both to the right and left, but the visible pulsation did not return; it was believed the tumor had increased in size backward, and was compressing the lungs and nerves and other structures located there; the pain became constant and great; he began to have cough, and semi-purulent expectoration, and became emaciated. He had some difficulty in swallowing a large mouthful of food or a pill. On the morning of June 11, he had a sudden attack of dyspnoea, with great pain, prostration, and tumultuous blood-sounds over the heart and all the upper part of his chest; death seemed imminent; stimulants were given, and ice-cold water, on a large folded towel, was repeatedly applied for *a few seconds at a time* between his scapula, and over the lower cervical and upper dorsal vertebra; this shock seemed to revive him somewhat, and during the day he became a little better. The improvement progressed on subsequent days; the loud, coarse murmurs became less, the breathing easier, the pain diminished; but the cough and expectoration increased, and so did the dysphagia; emaciation steadily progressed; it was surmised that another attempt at spontaneous cure had been made, and a consolidation of the aneurism partly effected.

On the morning of August 6, 1880, he calmly died.

At the *autopsy*, a tumor larger than his heart was found, involving the arch of the aorta and the origin of the innominate, produced by dilatation of the arterial walls. The tumor felt solid, but, when incised, was found filled with two distinct muscular-looking masses, one outside of the other, the inner one having a channel through it, with rough walls, corresponding to the lumen of the aorta. These masses could be broken up with the fingers, but offered considerable resistance, and had the color and appearance of coarse muscle. The two concentric layers showed plainly the two distinct efforts at spontaneous cure and organization of the clot. The right lung contained several cavities with pus, and was much consolidated and infiltrated with the products of inflammation.

CASE 10.

C. K.; nativity, Maine; aged 40 years; admitted to the Marine Hospital, San Francisco, August 25, 1880. Aneurism abdominal aorta.

Physical examination.—General condition, old and worn-out sailor; pulsating tumor felt above umbilicus.

Symptoms and progress.—Gradual decline in strength as the paroxysms of pain increased in frequency and severity. Opiates were given freely, (subcutaneous.) The aneurismal sac ruptured into the peritoneal cavity September 14, and death was instantaneous.

Autopsy.—Immense aneurismal sac of abdominal aorta, commencing at the opening in diaphragm and extending downwards two or three inches.

CASE 11.

A. C. L., (colored;) nativity, Maryland; aged 49 years; admitted to the Marine Hospital, San Francisco, December 28, 1880. Aneurism of aorta.

History.—Nothing elicited except a "strain" some years ago. Palliatives had been taken to relieve the pain for some months.

Progress, &c.—The only treatment attempted was anodyne and rest. Nothing favorable occurred, and the patient died January 12, 1881.

Autopsy.—There was found an immense aneurismal sac, beginning at but not involving the aortic valves, and extending up to the middle of the transverse portion of the aorta. It formed a cavity larger than the heart itself. It had ruptured into the pericardial sac.

PNEUMONIA.

CASE 1.

G. McC., admitted to hospital, Pensacola, Fla., December 29, 1880; died January 3, 1881, of pneumonia.

Autopsy.—Upon opening the chest the right pleura was found much congested, with slight pleuritic effusion and thickening of the pleural membrane; the left pleura healthy; both lungs in high stage of engorgement; the lower and middle lobes of the right lung almost solid; the upper lobe very much congested, but admitted air freely; the left lung engorged, but not so great as the right. On cutting the lungs, bloody, frothy fluid escaped, the lung tissue of a deep reddish purple, and the lower lobes much heavier than the upper. The bronchial tubes were filled with a thick, ropy, glutinous mucus, slightly streaked with blood and pus; the mucous membrane congested and the walls thickened; balance of viscera healthy.

CASE 2.

W. D., (colored;) Georgia; aged 34 years; admitted to the Marine Hospital, Bedloe's Island, January 20, 1881; died February 24, 1881. Patient came in suffering from lobar pneumonia of the right lung, of which he died.

Autopsy.—Left lung, seat of hypostatic congestion to a small extent posteriorly, otherwise normal. Right lung had entirely disappeared, and was replaced by a cavity filled with a gray, purulent fluid. The costal and visceral pleura were adherent throughout.

CASE 3.

J. F.; nativity, Ireland; admitted to hospital, Portland, Maine, May 21, 1872. Diagnosis: Inflammation of lungs. Died May 26, 1872.

Autopsy, 17 hours after death.—Thorax: Left lung united to thoracic walls by firm pleuritic adhesions, and on being removed a large gangrenous cavity was exposed, occupying the middle and upper lobes and containing black fetid matter. Other organs healthy.

CASE 4.

Congestion of the lungs—Cerebral hemorrhage.

E. J. S., (colored,) aged 22 years. He had been sick four or five days, and the ambulance was sent for him. At the commencement of his illness he had fallen upon the ice, striking heavily on the occiput. Upon his entrance to the Chelsea Hospital, January 14, he was found

to be almost unable to speak; his mental faculties very dull. On speaking sharply to him he complained of some pain about the kidneys. Pulse, 72; skin natural; pupils uniform and responsive to light; tongue thinly coated; no tenderness found in any part of the body except at the occiput. During the night he was quite restless and in delirium; threw himself out of bed several times, and was unable, without assistance, to get back to bed, but showed no paralysis.

January 15.—Pulse, 66; temperature, 36.6° C. Takes water freely, and his medicine, but vomits food. Somewhat brighter. About four ounces of urine passed in the night. No dejections; no complaint of pain nor uneasiness. The urine contained a large number of granular casts and a small amount of albumen.

January 16.—Pulse and temperature same; mental condition improving; vomits all food, but retains medicine. No urine passed in last twenty-four hours; catheter introduced and one ounce of urine drawn, containing triple phosphate crystals—no casts. Again restless through the night. Gave potass. acetat., gms. 1.30, every three hours, and 32 C. C. ol. ricini. P. M., vomited oil and food; mind clear, and speaks in answer to questions. On the 19th there was total suppression of urine, and he died on the 20th.

Autopsy.—Head: no ecchymosis of scalp; dura mater deeply ecchymosed, and arteries and veins injected from the lateral ventricles on the right side; a fibrinous clot extended to the base of the brain, curving around the formix. Chest: heart fatty and lungs much congested. Abdomen: stomach, liver, spleen, and intestines showed injection of the arteries on the external coat. The kidneys were greatly hypertrophied and tinged with blood. The bladder was contracted, and contained about an ounce of urine. The pulmonary congestion was the immediate cause of death.

CASE 5.

W. S., admitted to Marine Hospital, Bedloe's Island, N. Y., October 31, 1879; died November 1, 1879. On admission suffered from asthma and dyspnoea. Similar attacks existed for sometime previous to admission; countenance expressive of great suffering; examination of sounds of heart was unsatisfactory, owing to the noisy character of the respiration. Pulse, 120 per minute; small and wiry; profuse perspiration. Patient gives a history of slight cough of about six months' duration. No œdema of feet or ankles. During the night his condition became worse, and he died at 7 A. M. November 1, 1879.

Autopsy.—Slight emaciation of body. Inguinal hernia on right side. Lungs, on removal from body, were found heavier than normal, pitted

on pressure, and section showed profuse quantity of bloody serum on cut surface and in the track left by the knife. Old pleuritic adhesions were found, and a small quantity of fluid in each pleural cavity. Serum and evidence of bronchitis were found in the bronchial tubes. The apex of the left lung was found so firmly adhered to the pleura as to be torn in removing it, and was solidified, but no cavities were found. Right apex was normal. Pericardial fluid was normal in amount. Heart, enlarged and somewhat softened. Two valvular lesions on right side, but cavities dilated and walls attenuated. Left ventricle hypertrophied. Mitral leaflets somewhat thickened and rigid. Cavity slightly dilated. Liver greatly enlarged and congested. Spleen, enlarged. Kidneys, normal.

PNEUMONIC PHTHISIS.

CASE 1.

P. K., aged 26; admitted to the marine ward, Jefferson College Hospital, March 15, 1879. Died June 14, 1879.

Autopsy.—Upon removal of calvarium, serum escaped. Slight adhesions at base of middle lobes of brain. Heart small; normal. Right lung strongly adherent to costo-pleural surface; at apex of lung several cavities, large and small, were found, and deposits of cheesy material throughout the lung; its base adhered to diaphragm; left lung apparently normal. Liver much enlarged; hard, waxy feeling, translucent; a typical amyloid liver. Spleen in similar condition. Mesenteric glands enlarged and tuberculous. Right kidney two and a half times normal size, nodulated on surface, a large tubercular mass occupying interior.

CASE 2.

M. A., aged 50 years; Chilian; was admitted to the United States Marine Hospital, Chelsea, Mass., October 15, 1878, with chronic pleurisy. He died of acute phthisis November 9, 1878.

Autopsy, November 20—9 A. M.—Body much emaciated. Heart normal; normal amount of serum in pericardium. Lungs: both thoroughly adherent; both much atrophied, and drawn into upper portion of thorax; lung tissue disorganized universally; numerous cavities in each lung; one in left of capacity of a turkey's egg; a very little tissue, capable of repairing, in right lung; none in left. Liver, stomach, and intestines not abnormal. Kidneys: on upper and outer aspect of right kidney a "puckered" white patch, size of a three-cent piece; on cutting through this, a cavity found size of a filbert, lined with thick membrane, containing urine; kidneys otherwise healthy.

EMPHYEMA.

CASE 1.

J. C.; nativity, United States; aged 30 years; admitted to the marine ward, St. Mary's Infirmary, Cairo, Ill., September 2, 1875. Pyo-pneumo-thorax.

History.—One week before admission had severe pain in right side, attended with cough, fever, &c.

Physical examination.—Dulness of right side on percussion; metallic tinkling of fluid on succussion.

Progress and symptoms.—Harassing cough. At end of one week all the symptoms had increased in severity, and aspiration was ordered.

Treatment.—Aspiration between sixth and seventh ribs, but air only escaped, and no relief was obtained. Four days later an incision was made into pleural cavity, air and pus escaping. This gave some relief for two days, but rapid congestion of the left lung terminated the patient's life October 3, 1875.

Autopsy.—Left lung deeply congested and adherent. Right pleural cavity contained three quarts of putrid fluid. Right lung so strongly contracted that it appeared absent at first. Opening between bronchi of right lung and pleural cavity could not be traced, but there was every reason to believe that the *post-mortem* examination justified the diagnosis of pyo-pneumo-thorax.

CASE 2.

T. D., aged 32 years; negro; admitted to the marine ward, St. Mary's Infirmary, Cairo, Ill., March 26, 1881. Original diagnosis: Pleurisy.

History.—Had syphilis secondary, and had been a hard drinker. The day after admission he was found to have empyema of right pleural cavity. Withdrew 508 C. C. of pus by aspirator, and then, March 28, cut down and withdrew slowly 2,460 C. C. of pus through a silver catheter, inserted a drainage tube, and washed out the cavity with solution zinc chlorid. The discharge diminished, and by April 25 had about ceased. Tube was removed May 1, the patient being decidedly convalescent, and walking out each day to get air. On May 9, after, as he confessed, drinking, he was caught in a rain, and that evening he had a chill, and the next morning had a pleuritis of the left side, with a pericardial friction sound, due probably to the pleurisy. He died on May 10, 1881. He had gained 11 pounds from April 7 to May 3, 1881.

Autopsy.—Right pleural cavity was nearly obliterated by adhesions to the lung, the adhesions being firm. The lung was about three-quar-

ters its natural size. There were two nodules of caseous matter, .01 M. in diameter, and three smaller ones, dry and brittle. All were encapsuled. There was also a collection of pus, about 50 C. C., sacculated at the anterior aspect of the cavity. The place of entrance of the tube was closed, and adherent to the lung. The collection of pus above referred to had evidently had no access to the air, and it was odorless. The left pleural cavity contained slight turbid effusion, and a large number of fresh adhesions, about 100 C. C. of clear fluid in pericardium, which was roughened and dull. The heart was normal. Kidneys both showed fatty degeneration, well advanced. The cause of death was evidently the recent pleuritis and pericarditis.

PERFORATION OF STOMACH FROM ULCER.

CASE 1.

P. J.; nativity, Denmark; aged 46; admitted to the Marine Hospital, San Francisco, December 6, 1879.

Diagnosis.—Synovitis of knee. On January 2, 1880, he complained of pain in stomach, and afterwards hæmatemesis occurred. This could not be controlled and patient died in an hour.

Autopsy.—Large ulcer was found which had perforated the walls of the stomach and formed an abscess between that viscus and the pancreas. The stomach was filled with large clots of blood from the late hæmorrhage. There was also a fibrinous clot which appeared to have come from an old hæmorrhage. This clot had rolled in the stomach, had become hard, and was too large either to be vomited or passed into the intestines.

CASE 2.

J. G., admitted to the Marine Hospital, Portland, Maine, September 24, 1880, for perforation of stomach, and died a few hours after midnight. Patient brought in a state of collapse; swelling and severe pain on pressure over region of stomach. *Autopsy* showed that the perforation was due to gastric ulcer. Perforation of stomach marked near pyloric orifice, size of quarter dollar.

DYSENTERY.

CASE 1.

G. S., aged 27 years; admitted to United States Marine Hospital, Chelsea, December 4, 1874. Died December 22, 1874. Disease: Chronic dysentery.

Autopsy, 15 hours after death.—Body much emaciated. Rigor mortis not well marked. Head not examined. Lower lobes of both

lungs congested and solidified; dark-red upon section; pus appearing at the openings of the smaller bronchi. Heart normal. The calibre of whole large intestine, from cæcum to anus, much contracted; the mucous membrane thickened; the whole surface ulcerated; thickening of mucous membrane and ulceration extended throughout cæcum and vermiform appendix and several inches up the smaller intestine. Kidneys small and anæmic. The other abdominal organs normal.

CASE 2.

Perforation of cæcum and colon.

I. W., aged 29 years; admitted to the Marine Hospital, St. Louis, November 16, 1880. Died November 25, 1880.

Autopsy.—Lungs normal. Heart normal; large clot in left ventricle. Liver hypertrophied and congested. Kidneys and spleen normal. Mesentery and peritoneum much inflamed. Bowels thickened and congested; ulceration and perforation of cæcum and colon.

CASE 3.

H. C., aged 21 years; admitted to the Marine Hospital, St. Louis, September 27, 1879. Died October 12, 1879.

Autopsy.—Lungs normal. Heart normal; large clot in left ventricle. Liver hypertrophied and congested. Kidneys and spleen normal. Peritoneum inflamed. Bowels thickened and highly injected; ulceration and perforation of colon and cæcum, and gangrene of rectum and colon.

CASE 4.

Perforation of rectum.

M. C., aged 39 years; admitted to the Marine Hospital, St. Louis, August 2, 1879. Died August 13, 1879.

Autopsy.—Lungs, heart, liver, spleen, and kidneys normal. Bowels, colon, cæcum, and rectum thickened and ulcerated; several small perforations found in rectum.

CASE 5.

Dilatation of ileum.

J. S. was admitted into the marine ward of the Charleston City Hospital on the 6th of May, 1881, with a diagnosis of dysentery. His age was 38 years, and he was a native of Ireland. He was extremely emaciated, and very weak. His bowels were "running off," as he explained it, when he left New York for this port; he had taken medicine aboard

ship, but to no avail; his symptoms were those of acute dysentery; his actions were frequent, thin, and bloody, having a most offensive odor. The treatment consisted of astringents, both by the stomach and rectum. Stimulants were freely given. The patient died on the 16th of May, at 5 o'clock A. M.

The *autopsy*, performed about six hours after death, revealed the following: The external appearances were those of extreme emaciation. On opening abdomen, found very little adipose tissue. The parts were remarkably dry: there was no peritoneal fluid. The parietal layer of the peritoneum was normal. The visceral layers and omenta were very much congested, more especially the omenta of the large intestines. The mesenteric glands were enlarged, varying from the size of a bird-shot to that of a filbert, and filled with a white cheesy deposit. Their ducts were plainly visible in parts of the mesentery. The stomach, duodenum, and jejunum were normal. The ileum was normal in the upper half of its course, but as it approached the ileo-cæcal valve it became more and more congested, although no ulcerations existed. A curious anomaly existed in the ileum. About fourteen inches above the valve there was a diverticulum three inches in length, and of the same calibre as the gut; it ended in a blind pouch, having its own mesentery, &c. The large intestine was the principal seat of the disease. From the valve to the anus there existed innumerable ulcerations, varying in size from a pea to a quarter of a dollar, their depth being from a line to a quarter of an inch; two of these ulcers extended through the muscular coats of the gut to the peritoneal covering; all of them were covered with a sero-purulent secretion. The liver was normal, as was also the spleen and pancreas. The kidneys were slightly enlarged. The bladder was shrunken and empty. All of the glands were more or less anæmic. The other viscera were not examined.

DIARRHŒA.

Hæmatocele—Hernia—Perforation of colon.

P. M., admitted to hospital at Pensacola, Fla., June 7, 1881, suffering from hæmatocele. 512 C. C. of a very offensive claret-colored fluid, consisting of decomposed blood, pus, and serum, were drawn off by aspiration. On the 9th the tumor was larger than before, and it was laid open and the clot turned out. The testicle was found so much diseased as to require removal; and there was an old hernia, which was reduced after breaking up some adhesions. The wound was closed

with pins and drainage established. He progressed toward convalescence without unfavorable symptoms up to June 24, when, by an imprudence, he ate plentifully of fish, which induced a return of a chronic diarrhœa from which he had suffered for many years, but at the time of operation he was not suffering from it. Died June 29, 1881, from chronic diarrhœa.

Autopsy.—Upon opening the abdominal cavity, very little fluid was found within; there was extensive inflammation of the mucous membrane of the small intestines, with ulceration of the large intestine, and perforation of the colon at the sigmoid flexure; the mesenteric glands were enlarged and indurated, the liver small and shrunken in appearance, but natural in color and texture, with the slight exception of small indurated spots, not larger than a half dollar. The intestines at point of hernia showed some inflammation externally, but not in a marked degree; examination of the wound showed healing by first intention at point of hernia and healing by granulation in scrotum and tunica vaginalis, almost entire obliteration of the vein and artery, retraction and subsidence of all inflammation in the cord.

ABSCESS OF LIVER.

CASE 1.

T. P., aged 33 years; admitted to the Marine Hospital, St. Louis, October 30, 1879; died November 11, 1879.

Autopsy.—Abdomen, tense and puffed up. Heart, lungs, and kidneys normal. Liver very much enlarged. Entire right lobe destroyed by an abscess, which had opened into the peritoneal cavity, causing well-marked peritonitis. Adhesions, binding liver to adjacent parts, easily broken down. Mesentery, thickened and injected. Bowels, walls thickened, and ulcers and remains of recently-healed ulcers found in cœcum, colon, and rectum.

CASE 2.

J. F. was admitted to the marine ward of St. Mary's Hospital, Evansville, Ind., June 22, 1880, suffering from prostration; pain in right hypochondriac region, labored respiration, nausea, constipation, and occasional vomiting. The pulse was rapid (120) and compressible, with the skin bathed in a profuse clammy perspiration. Now and then the patient suffered from severe rigors. Percussion dulness was detected over the right hypochondriac region in a more extensive area than that

occupied by the normal liver, and extended downwards to a point about two inches below the umbilicus. There was absolute dulness over right lung, anteriorly, extending as high as the upper margin of the third rib. Auscultation in this region revealed a total absence of respiratory sounds, with the exception of a friction sound in the pleura. Palpation gave vocal fremitus over right lung. The patient died comatose June 25, 1880. For sometime prior to his admission the patient had suffered from dysentery and ague, on the lower Mississippi. On the morning of June 26, 1880, an *autopsy* was made. On opening the chest and abdomen, a very large hepatic abscess was found, involving almost the entire parenchymatous structure of the viscus, and in some places enclosed only by Glisson's capsule. The abscess extended up into the chest, pressing the diaphragm before it, and forcing the middle and lower lobes of the right lung upwards and backwards against the spine, the lower lobe being collapsed. With the exception of a portion of the right lobe and lobus *spiegelii*, almost all the parenchyma was broken down and replaced by pus. In an attempt to remove the viscus the abscess broke and discharged its contents into the abdominal cavity, so that it was impossible to measure the pus. The upper lobe of right and the left lung, the heart, spleen, and kidneys were normal.

S P L E N I T I S .

CASE 1.

H. P., (colored,) aged 27 years; nativity, Virginia; admitted to hospital, Baltimore, July 2, 1880, with following history: He had been sailing in Chesapeake bay and Potomac river for several months, and had been perfectly well until six days before his admission, when he was seized with a severe chill, followed by a high fever, sweating, &c., which passed off that night. During the next two days he had several chills at irregular intervals, and after that continued fever. When admitted his temperature was 39°; pulse, 120; respiration, 20; there was diarrhœa, pain in the head and lumbar regions, tongue heavily coated, conjunctivæ yellow; his mental condition confused, and at times he was very delirious. His case was considered to be one of typhoid fever, complicated by intense malarial poisoning, and he was put on quinine in large doses, the mineral acids, and stimulants, with a milk diet. No treatment gave any relief, and he died on the sixth day after his admission to hospital, and on the twelfth day of his illness.

Autopsy, July 9, 1880.—Lungs, congested, (hypostatic;) heart, large and flabby, the muscles feeling softer than usual; liver enlarged, congested, and softened; spleen double its usual size and almost diffuent; kidneys, normal. In the intestines only three of Peyer's patches seemed to be inflamed, and there were a few enlarged mesenteric glands.

CASE 2.

W. C., admitted to the Marine Hospital, San Francisco, July 31, 1880. Diagnosis: Splenitis.

History.—He was in semi-comatose condition when admitted, but it was learned from the captain of his vessel that he had been sick four or five days with cramps in the abdomen, and referred all his pains to the umbilical region. He had been an English soldier, and had served in India.

Symptoms and progress.—There was visible pulsation of aorta, which, taken together with the detection of a faint bruit, led to the supposition that there was an aneurism. The patient did not recover sensibility, but daily grew worse, having difficult deglutition, which prevented the administration of food or medicine. The pulsation at wrist was hardly perceptible, and the hands were cold, while the femoral pulse was strong and feet warm. Death occurred August 3, at 9 P. M., with no material change in the symptoms from the first.

Autopsy.—Brain, heart, lungs, liver, kidneys, and aorta normal. The spleen was in a pulposus condition, consisting of the broken-down visceral tissue and blood, but no pus. This mass, which was twice the normal size, and nearly the consistency of coagulated blood, was so disorganized as to break down upon the slightest pressure. The contraction of the pupil, comatose condition, pulsation of abdominal aorta, feeble pulse at wrist, and full pulse of the femoral artery, are the principal clinical points of interest in this case.

PERITONITIS.

CASE 1.

F. D., aged 22 years; admitted to the Marine Hospital, San Francisco, April 6, 1880. Died June 9, 1880. About ten hours before death 4,000 C. C. of highly-albuminous fluid was withdrawn from abdomen by the aspirator.

Autopsy.—Lungs: Old adhesions on both sides; right, normal; left, hepaticized and bronchi dilated. Heart very much enlarged; right ven-

tricle filled with an enormous blood clot; right auricle much dilated; valves thickened; fluid in pericardium. Abdomen, extensive peritonitis and fibrinous exudation. Kidneys normal.

CASE 2.

Chronic suppurative peritonitis, with general abdominal ee'lulitis.

P. B., aged 35 years; nativity, Austria; was admitted to the Hotel Dieu Hospital March 29, 1881, apparently suffering from hepatitis. Upon questioning the patient as to his previous history, he stated that about two years ago he had been affected with chills and fever for two or three months, and that he had the "yellow jaundice." He stated that he was "swollen from the belly to his feet, and continued in that condition for over one month, when the swelling went away;" that he had been having chills and fever occasionally during the past year; and that he had slight chills before entering the hospital, with pain in the right side. He had slight chilly sensations at different times after his admission, but no pronounced chill. When first seen his appearance was that of a person suffering from chronic malarial poisoning. His skin and conjunctiva were yellow; his feet, legs, and scrotum were œdematous; his abdomen much distended, and dull on percussion, except in left hypochondrium, where tympanites was marked, in whatever position the patient was placed. On the right side, the abdomen bulged the most, and was marked from the first, extending from the lower border of the ribs to the crest of the ilium, and from the ensiform cartilage to the pubes. The lower lobe of the right lung was dull on percussion, but no abnormal sounds were heard on auscultation. There appeared to be considerable ascites, which interfered with respiration; bowels constipated, and appetite not good, with occasional nausea and vomiting after eating. The heart and lungs were carefully examined, and found normal. No trace of albumen could be found in the urine, although examined repeatedly.

March 30.—Temperature, 37.5° , [$99\frac{1}{2}^{\circ}$ F.;] respiration, 22; pulse, 90. All the symptoms continued about the same until April 23, when the ascites increased. The treatment up to this date had been iron and quinine, soda bicarb., and cathartics.

April 23.—Temperature, 37.6° , [$99\frac{3}{4}^{\circ}$ F.;] pulse, 92; respiration, 24. Pilocarpine, .033 gm., was injected. Two hours later, temperature, 37.3° , [99° F.;] pulse, 92; respiration, 22; perspiration abundant.

April 24.—Pulse, 82; temperature, 37.3° , [99° F.;] respiration, 24. Pilocarpine, .022 gm., injected. Two hours later the temperature was 37.5° , [$99\frac{1}{2}^{\circ}$ F.;] pulse, 92; respiration, 24. The right lobe of the liver

was then explored with aspirating needle in two places without any evidence of suppuration. The surgeon of Charity Hospital, who saw the case with the medical officer at this time, was of the opinion that there must be an abscess of the liver, and that it had not been reached with the needle. He introduced it with negative results.

April 25.—Ascites increased, respiration difficult, and patient quite feeble. No very marked tenderness over the abdomen at any time. He complained of little pain, except from the difficulty in breathing, which was great. In order to relieve this it was decided to draw off the fluid from the peritoneum. Introduced the trocar and canula to the extent of 5 C. through the wall of the abdomen, in the median line, about 5 C. below the umbilicus, and was greatly surprised to find, at first a thin whitish or grayish pus, soon followed by a thick creamy pus of a bright or chrome-yellow color, of which about 6,000 C. C. run out freely and then suddenly stopped. No more could be drawn, although there seemed to be some remaining, as the abdomen was still much distended and dull on percussion. The patient was placed upon his right side and a wide bandage applied around the abdomen, covering the wound with carbolized lint. During the night a great quantity of yellow pus escaped from the wound, and continued to do so for several days following. Altogether over 12,000 C. C. of pus escaped from the wound. Shortly after the operation the patient's temperature was 37.36°, [99¼° F.]; pulse, 80; and respiration, 20. The patient was very much relieved. He remained in about same condition ten days following the operation. The temperature at no time reached 38°, [100° F.] The temperature was generally taken in the morning and at noon, and two or three times in the evening, but very little difference was found.

May 5.—The assistant surgeon took charge of patient this day. Subsequent observations were, that the temperature was rarely above normal; pulse about the same; no pain in abdomen; inconvenience from the fluid was all that troubled the patient; dulness of abdomen upon percussion; from one of the wounds where trocar was introduced, there was a constant oozing of brownish-yellow pus. It seemed that the abscess of the liver had broken into the sheath of the transversalis abdominis, or that the pus was discharged into the fascia between the peritoneum and abdominal fascia; but if this latter supposition were correct, why was there no general peritonitis?

On May 15, while straining at stool, the cicatricial tissue about the umbilicus broke, and a quantity of brownish-yellow pus, estimated to equal some 8,000 C. C., was discharged. After this he constantly grew weaker; the œdema of the lower extremities increased; his appetite entirely failed; on the first day of June he died.

Autopsy.—No sears on body; great œdema of lower extremities; abdomen distended; dull upon percussion; no icterus. On exposing the intestines, the peritoneum was adherent to the entire mass by a layer of formed lymph, three-quarters of an inch thick. With great difficulty it was torn apart and the entire intestinal mass was glued together in the same manner, and to each organ. The liver presented externally a very healthy appearance, and, on removing it, a longitudinal section was made disclosing a healthy condition of the entire organ. It presented no appearance of disease, save there was a small amount of pus in the portal veins. The kidneys were normal in appearance, but were slightly enlarged. Spleen of normal size, dark-red, and injected. The pancreas was normal; a careful search did not show the presence of any tumor. It was concluded that the œdema was due to the pressure of the agglutinated intestinal mass upon the vena cava ascendens. There were, perhaps, about 250 C. C. of pus in the cavity of the abdomen. Examination of thorax showed new pleuritic adhesions, some well formed; no fluid in the cavity of pleura. The heart was very firmly contracted, and its valves normal.

No examination was made of the brain or spinal cord. It was concluded that the case was one of suppurative peritonitis, *not dependent* upon traumatism. The singular features of the case were, the absence of fever, or pyæmic chill, the slight pain upon percussion of abdomen, the œdema of the extremities, (which commenced early in the case,) the large quantities of pus formed, and its peculiar and semingly pathognomonic color of liver pus. The case was seen in consultation, by several medical gentlemen of the city, who agreed with the diagnosis of hepatitis.

CASE 3.

Mortification of the intestines.

S. S. W.—This seaman was brought to the United States Marine Hospital, Chelsea, Mass., in the ambulance, from the ship "Frolic," in a very feeble and debilitated condition, October 9, 1878. On examination he was found to have an old hernia of the left side; had intense pain in the abdomen, was deeply jaundiced, much emaciated, and had a very irritable stomach. He complained of much pain over the abdominal ring, but the ring was open and the intestines could be returned with ease. He wore a truss which had a very stiff spring, and had abraded the skin. The truss was removed and peritonitis combatted without avail, and the man had finally great ballooning of the intestines, and stercoraceous vomiting, which continued at intervals up to his death, which occurred on the 13th day after his admission.

Autopsy.—On opening the scrotum there was considerable clear serum in the lower part, and the testicles were atrophied to less than one-half the usual size. The hernial sac was distended with serum and lymph flocculi. The inner wall of the sac was covered with recent lymph. The ring was open, measuring two centimeters, and was dragged down to the pubis. The intestines were blackened and in a state of sphacelus throughout their extent. The omentum, the mesentery, the capsule of the liver, and indeed all the abdominal viscera, were agglutinated and almost “rotten,” from the advanced disintegration. The sight and smell of the abdominal cavity were sickening in the extreme. The head and thorax were not examined.

ASCITES.

CASE 1.

Abscess of kidney.

M. M.; nativity, Ireland; aged 32 years; readmitted to the Marine Hospital, San Francisco, July 13, 1877. Ascites.

History.—Duration of disease, $1\frac{1}{2}$ years. The abdomen measured $58\frac{1}{2}$ inches in circumference over the umbilicus.

Treatment.—Paracentesis abdominis was performed July 14, and 20 litres of albuminous fluid withdrawn, which reduced the circumference of the abdomen to 35 inches. On August 18, 18 litres of light-colored fluid were drawn off. November 18, he was in “better condition generally.” December 26, he died from uræmic poisoning.

Autopsy.—Suppuration of the left kidney and atrophy of the right. Heart and spleen degenerated.

CASE 2.

Atrophy of the liver.

I. F. D.; nativity, United States; aged 50 years; admitted to the Marine Hospital, San Francisco, July 30, 1877. Ascites.

History.—Disease of “several weeks’ duration,” but no other facts obtained.

Treatment.—Paracentesis abdominis performed September 2, and about 12 litres of fluid withdrawn. Patient died September 30.

Autopsy.—Atrophy of the liver. Other organs healthy.

CASE 3.

Aneurism of aorta.

A. J.; nativity, Sweden; aged 34 years; admitted to the Marine Hospital, San Francisco, November 19, 1878. Ascites.

Physical examination.—Fluid in abdominal and thoracic cavities. Mitral insufficiency.

Treatment.—Pilocarpine, (.022 gm.,) which gave relief for twenty-four hours. Paracentesis abdominis et thoracis performed and 2 litres of fluid withdrawn. Patient died December 6.

Autopsy.—Aneurism of the aorta, at its commencement with atheromatous condition of aortic valves. Hypertrophy of left ventricle, heart weighing 800 gms. There was also insufficiency at the situation of the pulmonary semi-lunar valves, as shown by the water-test.

CASE 4.

A. M., aged 56 years; admitted to the Marine Hospital, San Francisco, June 30, 1877. Diagnosis: Ascites.

History.—The duration of the disease was three months.

Treatment.—July 2, paracentesis abdominis was performed, and 6 litres of albuminous fluid withdrawn. July 31, he was again tapped, and 8 litres of like fluid was withdrawn. Patient died August 17, 1877.

Autopsy.—Hypertrophy of heart, particularly left ventricle, and insufficiency of left auriculo-ventricular valve.

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BRIGHT'S DISEASE.

CASE 1.

T. S., born in North Carolina; aged 64 years; admitted to the Marine Hospital, Mobile, Ala. Sick about 16 months; died May 8, 1881, of chronic parenchymatous nephritis.

Autopsy, 12 hours after death.—Rigor mortis slight; face and hands anasarcaous; no ascites, (never had any;) slight œdema of feet; heart enlarged; left eccentric hypertrophy and dilatation, (slight;) valves normal; pericardial fluid, about 250 C. C.; lungs slightly hyperæmic; liver bright-red, rather undersized; kidneys reduced in weight and bulk—"contracted," firm and tough to feel; outer surface somewhat rough—not enough to be termed granulated. About the middle of posterior surface of the left, a single watery cyst, (hydro-nephrosis,) the size of a hazel-nut, was found. The tunica propria seemed completely blended with the outermost parenchyma. Upon section the cortical substance was found to be nearly gone—only a slight rim lay around the pyramids, which latter appeared of a dirty whitish color, and apparently containing a good deal of fatty and fibrous tissue. No signs of abscess

or other watery cysts. Spleen darker than normal, reduced in size, seemingly having undergone a protracted atrophy. Was tough and doughy to the feel; fissured upon the outer surface, with a white calcareous mass in the interspace, wedge-shaped, and about three lines in width at the outermost part. When cut into, the parenchyma looked darker than usual, and was rather friable in consistency. Other organs not examined.

CASE 2.

N. J., aged 51; native of Norway.

History.—This man had been a patient of the Marine-Hospital Service at the ports of Boston, New Orleans, and New York, at various intervals for the last twelve years; his disease was diagnosticated as Bright's disease of the kidneys at each place; he was admitted to the United States Marine Hospital, Chelsea, Mass., for the last time, July 11; his urine was highly albuminous, and he had frequent chills; he finally died in convulsions July 26, 1877.

Autopsy, 24 hours after death.—Heart and lungs healthy. Abdominal viscera generally normal in appearance. Brain not examined. Kidney small, pale, and granular; no traces of inflammatory action; no difference was manifest between the two organs; one kidney was injected through the renal artery with a carmine injection and the kidney immersed in alcohol. After 24 hours a section was made, but no abnormality was apparent by the microscope.

CASE 3.

W. J. M., aged 26 years; South Carolina; admitted to Marine Hospital, Chelsea, Mass., November 27, 1878, suffering from Bright's disease, with lower extremities, penis, and scrotum much distended. Soon after, his abdomen became full and fluctuating. The urine was found very heavy, loaded with albumen, and at several examinations showed little change.

Autopsy, December 14, 1878, 24 hours after death.—General waxy hue to whole surface; face pitting on pressure; tissues, wherever cut, filled with serum. Heart rather small; healthy. Lungs also healthy. Abdomen: perhaps 3 litres of rather muddy serum in cavity, with numerous flocculi of recent lymph on surface of organs, and floating freely. Abdominal organs healthy, except kidneys; both were very pale and wanting firmness; the left considerably smaller than the right; the left had large cicatrix, extending on one side from outer border to hilus, as if caused by some extensive disorganization within.

CASE 4.

H. B., admitted to the United States Marine Hospital, Chelsea, Mass., September 7, 1877, stating that for the last two months he had swelling of his feet and legs, and considerable pain in region of the kidneys. He had at the time some dimness of vision and headache. His urine was found to be albuminous. He was given hot baths, with powders containing nitrate and bitartrate potassa with elaterium, which reduced the œdema considerably, and relieved his distress. These remedies were employed much of the time during the continuance of the case, the elaterium being increased at one time to .002 gm. Digitalis was commenced October 7. About October 1, cough began, which continued until his death. The œdema about the lower extremities and abdomen increased. He became dull, somnolent, and somewhat comatose the last two days of his life, and died quietly at 4 P. M. October 31.

Autopsy, November 1—9 A. M.—Lower extremities considerably swollen; pitting on pressure; body otherwise of a healthy appearance; marked vigor. Lungs not adherent or œdematous, and dependent portions somewhat congested, but not otherwise abnormal; about 2 litres of clear serum in each pleural cavity. Heart large, firm; valves healthy; some recent lymph, and about 60 C. C. serum in pericardium. Liver, gall-bladder, and spleen normal. Stomach: mucous surface markedly œdematous and thickened; small and large intestines healthy throughout, but mesentery and intestinal coats infiltrated by serum; about 6 litres clear serum in abdominal cavity. Kidneys both small, pale; capsule easily removed; surface of kidney granular and somewhat lobular; cortical substance extensively atrophied; tubular portion diminished, but to naked eye not materially abnormal; no cysts observed. Ureters of natural size. Bladder small, thickened, and empty. General anasarca throughout all tissues of the body.

CASE 5.

J. T. D., aged 50 years; nativity, Maryland; admitted to the marine ward of Maryland University Hospital, Baltimore, February 11, 1880, and to St. Joseph's Hospital, July 1, 1881. He had been subject to ague since childhood; had had syphilis when he was twenty years old; and he had led a dissipated life. He was suffering from acute Bright's disease, brought on by exposure, when admitted to the hospital, (University,) but when transferred to St. Joseph's Hospital it had become chronic. His sufferings were principally due to attacks of asthma, till during the

last month of his life, when dropsy and nræmic phenomena prevailed; his urine was about one-half albumen, and contained a few granular casts; he became comatose February 24, 1881, and died February 26, 1881.

Autopsy, February 27, 1881.—A large quantity of serum was found in the pleural sacs. His lungs were emphysematous. Both sides of the heart were hypertrophied, but the valves were in a healthy condition. The kidneys were double their usual size; their capsules came off easily; their cortical substances were white, smooth, and increased in size. There were no evidences of fatty kidney, and the iodine test did not give the characteristic discoloration found in lardaceous kidney. The liver and spleen were both enlarged, but otherwise apparently healthy.

CASE 6.

J. L., (colored,) aged 54 years; nativity, Maryland; admitted to marine ward, St. Joseph's Hospital, Baltimore, February 8, 1881. An examination showed that there was consolidation of upper lobe of right lung, normal heart-sounds, weak and rapid pulse, temperature of 37.5° , and respirations 24 to the minute; there was also pain in the right side of the chest; a bad cough, loss of flesh, and general debility. No other trouble could be detected. The diagnosis of "incipient phthisis pulmonum" was made, and he was put on the usual treatment. During the first month he was in hospital he improved; but during the second month his feet and ankles became cedematous, and an examination was made of his urine, but no albumen was detected. Repeated examinations were made, and in the sixth week after his admission a trace of albumen was discovered. The dropsy had increased rapidly in spite of every effort to reduce it, and, as albumen soon became abundant, the diagnosis was changed to chronic Bright's disease. The quantity of urine passed daily was about 1600 C. C., and the specific gravity, 1020–1022. He died April 11, 1881, about seven weeks after the first appearance of swelling in his limbs and five weeks after albumen was detected.

Autopsy, April 12, 1881.—Pleural sacs full of serum; upper lobe of right lung consolidated, but no cavity found. Heart enlarged, but valves in a normal condition. Liver small and cirrhused. Kidneys very small, contracted, and granular; the capsules were firmly adherent. The points of special interest in this case were the late appearance and the rapid increase and enormous amount of dropsy, and also of albumen in his urine; its high specific gravity, and the absence of constitutional symptoms generally associated with that condition of the kidney known as the "large white kidney."

CASE 7.

J. H.; nativity, Ireland; aged 48 years; admitted to the Marine Hospital, Bedloe's Island, November 13, 1880; died December 27, 1880. Had been operated on three years previously for organic stricture of urethra; complained of frequent and painful micturition; very weak, nervous, and a marked cachexia; urine clear; no albumen. Upon examination, two urethral strictures were found, one, one and a half inches from meatus, and the other, deeper. A No. 3 elastic sound was passed, which enabled him to pass a larger stream. Urine again examined, but nothing abnormal found. Patient grew worse, and in about two weeks the strictures were divulsed with Holt's dilator. He then had a violent chill, followed by an exhaustive sweat. For several days he appeared very somnolent, and complained of severe pain over kidneys; extremely nervous, and passed a very small quantity of urine; continued for three days in somnolent condition, when he died. Urine never yielded any albumen. Upon admission, diagnosis was stricture accompanied by cystitis; but he was afterwards treated for chronic Bright's disease.

Autopsy.—Kidneys very small; capsules adherent, and at several points had effusions beneath them forming blebs; the cortical substance had almost entirely disappeared; glomeruli were congested; medullary portion greatly diminished, and contained several small-sized cysts. Cause of death was decided to be chronic Bright's disease.

CASE 8.

Hypertrophy of heart.

J. W., (colored,) aged 40 years; admitted to the Marine Hospital, Saint Louis, August 30, 1880. Very intemperate; has enjoyed good health, and has done a great deal of hard work up to his present illness; whilst walking up a hill, carrying a heavy load, he felt something suddenly give way in his chest, and has suffered greatly from dyspnoea, palpitations, wheezing, and husky voice; no œdema; has pain in right anterior axillary fold; complains of these symptoms being aggravated by exertion.

RECORD OF EXAMINATION.—*Inspection.*—He is a well-nourished, vigorous man, with a prominent abdomen, which he states is natural to him; no anasarca or ascites; marked pulsation at the root of the neck and in the line of the carotids; slight pulsation in second intercostal space close to sternum. Cardiac impulse visible in the fifth inter-

space as far out as the nipple, and at the sixth interspace nearly two inches outside of the nipple. Expansion of both chests is regular. No difference in the pupils.

Palpation.—Impulse at the base of the neck is forcible. The aorta can be felt at the supra-sternal notch. Impulse is transmitted to the larynx, even when the latter is lifted up. Impulse seen at the aortic interspace can scarcely be felt. Cardiac impulse is feeble.

Percussion.—Cardiac dullness at third left interspace, near the sternum, extends downwards and outwards to the apex beat; from this point the dullness extends to mid-sternum. Resonance over this bone is impaired, especially above, where the dullness extends over one inch to the right of the bone, at the first and second interspaces.

Auscultation.—A double murmur is heard throughout the left chest, but loses its intensity towards the axilla. The point of greatest intensity is at the base of the heart, yet it is loudly heard all over the sternum; but it is soft and low-pitched to the right of the sternum, and becomes harsher over the bone. The diastolic murmur is so loudly heard at the apex, and it replaces so completely the second sound, that it is probable that we have aortic regurgitation. The enormous size of the heart also points in this direction. The absence of a first sound points to mitral regurgitation, but this is the only fact pointing this way. The diastolic murmur is loudest over the heart, the systolic at the aortic interspace. The latter is transmitted into the neck, the arms, and down the vertebral column to the sacrum. The dyspnoea and palpitations have been so much relieved that it is very difficult to keep him quiet. He died October 1, 1880.

Autopsy.—Thorax: on removing the sternum, the enlargement of the left side of the heart was apparent. It pushed the aorta upwards so that it appeared above the supra-sternal notch. The left auricle was also very much enlarged. It was this enlargement that gave rise to the dullness towards the aortic region, and which led to the diagnosis of aneurism of the arch of the aorta. The arch was but slightly dilated. The right heart was but slightly dilated, and the walls of both the auricle and ventricle were thickened. The walls of the left auricle and ventricle were of normal thickness, but friable and of a yellowish color. These two cavities were enlarged to about twice their normal capacity. The valves of the right heart were normal. The mitral valve was thickened. The anterior leaflet was hypertrophied, and the posterior one slightly contracted. It is probable that, owing to the size of the auricle and ventricle, the valve was insufficient. The dilatation of the auricle confirms this view. The aortic valves were slightly thickened. The

corpora aurantii had disappeared, but there was no marked contraction of the leaflets. Considering the enormous size of the ventricular cavity, and the slight dilatation of the arch, it is probable that the aortic valves were also insufficient. As in the case of the mitral valve, this view is confirmed by the dilatation of the cavity behind the valve, the auricle in the one case, the ventricle in the other. We must conclude, then, that the murmurs supposed to be a double aneurismal bruit were: the systolic, a mitral regurgitant, and an aortic obstructive murmur, the latter apparently due to some twisting of the arch, and the diastolic, an aortic regurgitant murmur. This must have been the initial cardiac lesion—hypertrophy, fatty degeneration, dilatation, and finally mitral regurgitation, following in succession. Lungs: the tongue-like prolongation of the upper left lobe and the top of the lower right lobe presented each a patch of embolic pneumonia. This accounts for the hæmoptysis during life. The blood mixed with the matters vomited was probably swallowed on account of the great difficulty he had in expectorating. Liver: much enlarged, fatty, and congested—nutmeg liver; the pulsation apparent in the organ during life was the transmitted cardiac impulse. Kidneys fatty and contracted; the organs were hard, yellowish, about the normal size, but the section was granular, the cortical substance was much reduced, and the capsule was tightly adherent; there were no atheromatous plates, but the arterial coats were somewhat thickened.

NOTE BY THE REPORTER.—This case was evidently a disordered hematopœsis due to alcoholism, in which the kidneys and the whole arterial system were the seat of a slow inflammatory process, with tendency to fatty degeneration.

CASE 9.

N. I. L.; Denmark; aged 25 years; admitted to the Marine Hospital, San Francisco, August 21, 1879. Diagnosis: Aente Bright's disease.

Symptoms.—(Edema of legs, face, scrotum, and abdomen; dyspnœa, chills, fever, and excessive albuminuria. Patient died August 29.

Treatment.—Hydragogue cathartics, hot-air baths, and pilocarpine. This latter was used with marked benefit in dyspnœa from œdema of lungs.

Autopsy.—œdematous lungs, enlarged liver, and large white kidney of Bright.

CASE 10.

F. W. B., aged 37 years; admitted to the Marine Hospital, St. Louis, October 20, 1880. Died November 6, 1880.

Autopsy.—Lungs: old pleuritic adhesions; right somewhat œdematous; bronchi dilated; left very œdematous. Heart normal; large

fibrinous clot in right heart; pericardium contained some fluid. Liver fatty. Kidneys: right, very large and white; entire destruction of cortical substance; left, size not materially changed; cortical substance diminished. Mesentery and omentum very fatty. Spleen small and soft.

RETENTION OF URINE.

Aspiration.

T. R., aged 28 years; nativity, Ireland; admitted to the Marine Hospital, Detroit, June 25, 1881. On examination, found him suffering from pain and shock; penis and thighs bloody. Stated he had a "stoppage of water," and about 10 P. M. of the 24th had gone to Dr. ———, who endeavored for two hours to introduce a catheter or sound; failing in which, sent R. to another doctor, who stated he had no "tools," and advised R. to go to a third doctor. This gentleman labored with the case until about 2 A. M., and then advised R. to go to the Marine Hospital, two and a half miles away, which R. was one and a half hours accomplishing. A closer examination revealed the fact that two punctures, evidently made with a trocar or large aspirating needle, had been made through the abdominal parietes, on either side of the line alba, about four inches above the pubis. The patient was anæsthetized, a filiform bougie tried first, then an olive-pointed flexible bougie, but either failed in effecting an entrance to bladder. A No. 10 Van Buren's sound was readily passed to the membraneous portion of the canal, when it was deflected to the right, and engaged in a false passage. Slightly withdrawing the sound, and by turning to the left and closely hugging the floor of the urethra, it was readily passed into the bladder. Nos. 12, 14, and 16 were also passed without effort or force. A No. 12 silver catheter was then passed, about 500 C. C. bloody urine drawn, and the bladder washed out with tepid water and creosote. Prescribed 0.66 gm. quinia sulph. and 2 C. C. tr. opii. During the 25th and 26th, the bladder was repeatedly washed, the constant formation of clot in the bladder making it difficult to do so. Rigors occurred on the 26th, followed by high fever, tympanitis, dysuria, &c., and on the 28th the patient died.

Autopsy.—Abdominal parietes gangrenous over seat of punctures. Muscular structure highly congested. Abdominal cavity full of sero-sanguinous fluid. Peritoneum very much thickened, and dark-mahogany colored. Intestines congested. Bladder very thick, contracted, and filled with clot. At fundus a large ulcer, the size of a

twenty-five-cent piece, was found, penetrating all but the serous coat. The urethra showed but little evidence of stricture. Two perforations through membranous portion of urethra into perineal fascia were found, but no evidence of hæmorrhage or inflammatory products. In my opinion, the retention or stoppage of flow of urine was due to hæmorrhage from the corroding ulcer of bladder, with the formation of clot, and death was caused by peritonitis, induced by the high punctures through the abdominal walls into the cavity of the same.

STRICTURE OF THE URETHRA.

C. H.; nativity, Sweden; aged 32 years; admitted to Marine Hospital at San Francisco, July 12, 1879.

History.—Previously admitted March 22, 1879, suffering from concussion of spinal cord, paralysis of left hand and arm, and lacerated wound of scalp. At that time "his urine showed a brownish, slaky mucous sediment." Discharged under his first permit July 11, 1879, and re-entered same day under stricture of urethra, which had developed in the hospital.

Treatment.—Divulsion with Holt's dilator, and introduction of a double canula for purpose of cleansing bladder. The canula was left in position owing to the great obstruction to the flow of water, but uræmic poisoning and infiltration followed. July 13, the canula was removed, owing to threatened sloughing. Incisions were made twice to relieve swelling, but without much benefit, and July 14 urinary fistula showed itself in the scrotum. Patient died July 17.

Autopsy.—Thickening of the walls of the bladder with vegetations on its surface extending into urethra was found. It is probable that these vegetations were in a measure the cause of the obstruction of urine.

NECROSIS OF ILIUM.

H. A., aged 23 years; admitted to the Marine Hospital, Bedloe's Island, October 4, 1879; died October 19, 1879. States that his trouble commenced in 1876, as a boil over the hip-bone, which opened, discharged a semi-purulent fluid freely, gave little pain, but grew steadily larger. In 1877, his condition being unchanged, he was admitted to Bellevue Hospital, where probing showed the opening to be six inches in depth. Necrosis was diagnosed, an operation performed, and the dead bone removed. In about sixteen months the wound

healed and he was discharged. From that time onward he remained well until five weeks ago, about the latter part of August, 1879, when a small bleb or blister formed in the vicinity of the former trouble, which opened and left a running sore, which has shown no inclination to heal. During this time he has been failing rapidly, and has lost much flesh. Examination reveals a linear cicatrix five and a half inches long, extending from about the sacro-iliac synchondrosis downwards, outwards, and forwards on left side. Very imperfectly formed, blueish in color, rather sensitive, and about its centre an oval ulcer with smooth edges and a tortuous sinus leading down toward the bone. Not much discharge is flowing from the sinus. Patient has slight fever in afternoon and has a fair appetite. A free and deep incision was made, with the hope of finding pus or dead bone, but none was discovered. On October 17, had several recurring rigors and high fever. A diagnosis of pelvic abscess was made, and it was proposed to trephine the os ilium, but a rapid change for the worse occurred in the patient, who died in forty-eight hours. High temperature, jaundice, rigors and sweating, pointing to septicæmia as the cause of death.

Autopsy, 13 hours after death.—Rigor mortis well marked; entire body jaundiced. The cicatrix and surrounding tissues over the ileum were dissected down to the bone, which was found thin and frail, broken into, released some two pints of yellowish-green, offensive pus. On opening body, connective tissue was found stained with bile pigment; muscles of abdominal wall and thorax pale and flabby. Lungs healthy, but œdematous and congested; old pleuritic adhesions existed. Heart: substance fatty, walls dilated; valves normal; pericardial fluid in excess. Kidney fatty and congested. Spleen enormously enlarged—weight, 2.9 kilos—displacing the heart and compressing the left lung. Liver enlarged; stained with bile; otherwise healthy. Opposite point of perforation of ilium was found a very large cavity from which the pus had escaped. It contained shreds of broken-down tissue, some little pus, and extending up the sheath of the psoas muscle. The inner surface of the ilium was necrosed and carious.

DELIRIUM TREMENS.

CASE 1.

F. G., aged 43 years; nativity, Maine; was admitted to the Hotel Dieu, New Orleans, March 4, 1881, for alcoholism; perfectly rational. States he has been drinking for several months, but to excess only about eight days; eyes red and suffused, and nervous tremor of body;

was in hospital but few hours until he had severe epileptical convulsions, with opisthotonus; patient continued to have convulsions at intervals of one hour during first night in hospital; temperature, 38.3°; pulse, 115; barking like a dog; hallucinations; boisterous singing and talking, with intervals of sanity followed, continuing about two weeks. Finally he became comatose, and died March 26.

Autopsy revealed congestion of the meninges of the brain, with effusion of serum in the arachnoid and ventricles. No pus was found. The brain was hard and anæmic. Choroid plexus throughout congested. No other abnormal condition found.

CASE 2.

Pneumonia.

W. S., aged 54 years; native of England; admitted to the Marine Hospital, Mobile, Ala., January 29, 1881, with delirium tremens. Had been drinking hard for two months—in fact, had been a hard drinker for twenty years; face mottled; pulse rapid and feeble; temperature, 39.25°, (102.65° F.;) respiration rapid, shallow, nearly absent, except at apex of lungs; double pneumonia. Patient was evidently dying, but, strange to say, he walked at least a hundred yards to get to the hospital. Died January 30, at 6 o'clock A. M.

Autopsy.—The whole encephalon and meninges congested to engorgement. A large amount of blood escaped in removing the calvarium. Lungs showed double pneumonia. Left lung hepatized, except small portion at apex; right, completely solidified; both extensively carbonized; when cut into, a thin, dark, purulent fluid freely followed the knife. Heart normal in size, fatty; insufficiency of aortic valve. Liver pale-yellow, fatty, and greatly congested, weighing 3.2 kilos. Spleen and kidneys normal in size, but very dark and friable; large deposits of fat in pelvis of latter. Nothing special about other viscera, except inflamed condition of stomach.

FRACTURE OF SKULL.

J. C.; nativity, Canada; admitted to the Marine Hospital, Portland, Maine, January 30, 1873. Diagnosis: Contusions. Died February 9, 1873.

Autopsy, 12 hours after death.—On removing the calvarium, the dura mater was found congested, and in the right supra-orbital region was lacerated by the points of bone from a fracture of the right orbital plate of the frontal, extending outwards and a little backwards from a point

just external to the base of the crista galli. The superior surface of the body of the sphenoid was found to be fractured into the sphenoidal cells, with the olivary process broken off and displaced backward and to the right. There was a fracture, without displacement of the great wing of the sphenoid, on the right side, extending from the foramen rotundum outward and forward. The petrous portion of the left temporal, from the centre of the superior border to the foramen ovale, was also fractured without displacement. Other organs normal.

GUNSHOT WOUND OF LUNG.

A. G., aged 30 years; very large, strong, and muscular; Cairo, Ill.; attended at his own house, as he declined to enter the "contract" hospital, September 30, 1880; died October 22, 1880. Recorded diagnosis: Gunshot wound of lung. Shot in chest with a pistol, (navy-revolver, large size.) Ball entered the right side of the sternum obliquely and cut that bone entirely in two. Saw him two days after the accident; suffering then from septicæmia. Passed a drainage-tube to wash out the pleural cavity. He improved at first, but finally died of septicæmia.

Autopsy.—Sternum divided at the level of the second ribs and the left first rib, separated from it by necrosis of its sternal end. All the loose ends of bone carious. Left scapula had a star fracture (2 C.) above the spine, against which the bullet lodged. Left pleural cavity partially obliterated by adhesions, firm and hard; same baggy and containing pus and serum in pocket-like receptacles, about 250 C. C. in all. Right side with a few soft adhesions; 465 C. C. of purulent fluid. Pericardium and heart healthy. Left lung perforated by a hole 2 C. in diameter, passing through one branch of the bifurcation of the left bronchus. Upper lobe almost entirely solid, soft, and extruding a gray semi-purulent fluid on pressure. Lower lobes showed a resolving pneumonia. Right lung healthy.

GUNSHOT WOUND OF BACK.

H. P. was admitted to the marine ward of St. Mary's Hospital, Evansville, Ind., March 24, 1881, suffering from a gunshot wound in the back, close to the right of the spinous processes, and apparently lodging in the second or third lumbar vertebra. No paralysis was consequent upon the injury, although the patient complained of pain in the right leg and foot, and it was difficult to produce an action upon the bowels. Three days after the injury, marked peritonitis set in, and for a time threatened the

life of the patient. This was subdued, and the patient continued to improve, with the appearance of the wound, and the discharge from it healthy, until April 17 following. On this date, peritonitis again made its appearance, and continued to increase in severity until the following day, when the patient died. An *autopsy* revealed the fact that the ball had passed between the laminae of the second and third lumbar vertebra, to the right of the spinous processes, and then coursed upward, and between the cord and the wall of the spinal foramen, without damage to the cord, and lodged in the cancellous tissue of the body of the second lumbar vertebra, to the left of the same, with only a thin layer of bone between it and the muscles. The liver was found to have in the right lobe a considerable area of hemorrhagic infarctions. The peritoneum and mesentery gave the usual indications of violent and diffuse inflammation. The bowels contained large masses of scybala. The other viscera were normal.

GUNSHOT WOUND OF CHEST.

G. M., aged 17 years; nativity, Kentucky; admitted to the Marine Hospital, Louisville, Ky., May 2, 1881, with gunshot wound of left shoulder. The ball entered the top of the shoulder, behind the clavicle and midway between the neck and claviculo-scapular articulation. A probe showed the course of the ball to be downwards, inwards, and slightly forwards. He complained of great pain in left side below the nipple, and great difficulty in breathing. Temperature on admission, one hour after receiving the wound, 35.5° C.; pulse, 96, and could scarcely be felt. He was suffering from shock, as well as fright, from which he recovered in a few hours. The dyspnoea was not entirely relieved by opiates, and by the 4th was slightly increased, and his cough, which had been present from the first, became painful, with occasional expectoration of bloody mucus. Dyspnoea increased until the 10th, when for the first time there was an elevation of temperature, which was 38.3° C. at 8 A. M.; 38.6° at 4 P. M. Expectoration scanty, and but little cough. On the 12th, his temperature was 38.6° C. in the morning, and 39.1° C. in the afternoon. Dyspnoea gradually increased until the 15th, when an aspirator was used, the needle being passed between the ninth and tenths ribs, and 1190 C. C. of bloody serum was removed. This gave considerable, but not entire, relief from dyspnoea. On the 16th, his temperature, which had been the same since the 12th, was 37.7° at 8 A. M.; 38.3° at 4 P. M.; pulse, 110. Dyspnoea increased on 18th, and morning and afternoon temperature 38°

and 38.5°, respectively. There was gradual increase in temperature and dyspnœa until the 25th, when the thermometer showed 39.4° C. at 8 A. M. and 39.7° C. at 4 P. M. At 6 o'clock P. M., paracentesis was performed, and over 500 C. C. of very thick bloody-colored pus was removed and a drainage tube inserted. The flow of pus was continuous, but not great, until the 28th, when he died, at 11 A. M., of exhaustion. There had been a gradual rise in temperature since the 18th, being 40.2° C. at 8 A. M. of the 28th; pulse, 135, and weak. He had not been able to assume a recumbent position since the third day after admission; and for fifteen days previous to death had sat on the side of the bed, with his arms and head resting on a chair-back or small table.

Autopsy, 24 hours after death.—Slight rigor mortis only. There was a small cicatrix at the point of entrance of the ball, the wound having entirely healed. A small scar also marks the point where the aspirator needle was inserted on the 15th. Wound in left side, in which the drainage-tube still remained. The left side measured one and a half inches greater than the right from spinous process of ninth dorsal vertebra to median line in front. Stomach, liver, spleen, kidneys, and intestines normal. The entire left pleuritic membrane in a state of inflammation, with numerous patches of lymph on both lung and thoracic surfaces. The cavity contained about 500 C. C. of thick purulent fluid, in which were great quantities of lymph flocculi. The left lung was smaller than normal, and the upper lobe, solidified, sank in water. The apex of left lung firmly attached to the wall at the point of entrance of ball. This adhesion was about two inches in diameter. The tissue or substance of the upper lobe very dark in color and somewhat softened; the right lung, normal; pleuritic adhesion to eighth and ninth ribs. The ball was found in the lower portion of lower lobe of right lung on the anterior or external surface just beneath the pleura, and encysted. It seemed to have been stopped by the pleura. The track of the ball was obliterated, but, from its position, it must have passed through the entire length of upper lobe of left lung, the upper portion of the lower, and through the lower part of lower lobe of the right lung, crossing the mediastinum without injuring any of the important vessels or heart; it lodged one and a half inches from lower margin of lower lobe and one inch from anterior border. Pericardium contained 200 C. C. of clear serum. Heart unusually small; weight not taken; fibrinous clot in right ventricle; valves normal; brain and membranes normal.

FRACTURE OF LEG.

Embolus.

G. G., aged 29 years; nativity, Finland; schooner "E. H. Furber;" was injured by an anchor falling upon him, off Boston light, at 4 A. M. January 14, 1878. He was brought to the United States Marine Hospital at Chelsea, and he was found to have sustained a compound comminuted fracture, tibia and fibula, near the knee-joint, and a similar fracture of the tibia at middle-third. The leg was amputated at the knee-joint, sawing through the condyles of the femur. Antero-posterior flaps were made; the posterior flap was button-holed; the ligature and a drainage-tube drawn out at this opening; a modified "antiseptic" dressing was applied, consisting of a layer of lint soaked in carbolic solution, then oiled silk, then another layer of lint, and then over that a layer of oiled silk, and over the whole a light bandage. The flaps were stitched with silver wire. The case progressed without unfavorable symptoms up to the 19th of January. The dressings were then removed, the stump cleansed, and a single layer of lint, wet with carbolic solution, applied. The wound was healthy in appearance. January 20, 1878, at 5.30 A. M., hæmorrhage set in from the stump. The watchman placed the thumb of an available patient over the femoral artery and called the surgeon. The dressings were removed, the ligature was found firm, and the bleeding had ceased—the entire loss of blood not having exceeded three ounces. Instruments were placed upon the table in readiness to open the flaps, and the nurse was directed to call the surgeon in case the hæmorrhage reappeared, and to compress the femoral artery until his arrival. The bleeding did not recur, and when the visit was made at the usual hour, 9.20 A. M., the patient seemed in usual health and spirits. He ate his breakfast, and asked to have his shirt changed, which was done. He then sat up in bed to eat a little more gruel and fell back dead. He was talking to another patient within three minutes just prior to his death.

Autopsy.—Chest: lungs healthy; a large fibrinous clot in the right auricle, closing completely the tricuspid valve; death was no doubt from this cause. The stump and flaps were healthy in appearance, and the ligature was firm upon the popliteal artery. The bleeding had come from a small arterial branch just above the thrombus in the popliteal. The popliteal vein contained pus^a for a distance of three inches from its distal extremity. Its walls were thickened, and the lining-membrane studded with granulations. The artery was healthy; both the femoral artery and vein were normal in appearance.

^aThe popliteal artery and vein were removed and exhibited at the Boston Medical Observation Society, January 21, 1878.

APPENDIX.

APPENDIX.

MEMORANDUM AND PROPOSED SNUG-HARBOR BILL.

SANITARY REPORT UPON UNITED STATES MARINE HOSPITAL, PORT-
LAND, MAINE.

SANITARY REPORT UPON UNITED STATES MARINE HOSPITAL, MO-
BILE, ALABAMA.

REPORTS UPON BERI-BERI.—(*a*,) REPORT OF CASES AT SAN FRAN-
CISCO; (*b*,) BERI-BERI IN CEYLON.

MEMORANDUM AND PROPOSED SNUG-HARBOR BILL.

MEMORANDUM FURNISHED HON. THOS. L. YOUNG, M. C.,

RELATIVE TO

THE BILL PROVIDING FOR A NATIONAL SNUG HARBOR.

The general regulations of the Marine-Hospital Service, based upon the law of 1798, govern temporary relief in hospital only. It is not deemed probable that a person requiring more than eight months' hospital treatment at one time, is fit to be a sailor. It has been estimated by competent authority that fully one-third of all seamen shipping before the mast suffer from various chronic affections, unfitting them for seafaring service. The consequence of this is, that the moment the vessel is out of port a certain number of the crew are taken sick, and the working of the vessel devolves upon the remainder. In case of bad weather, requiring an extra amount of work, the danger of their becoming exhausted, and the vessel, in consequence, being lost, is always great.

On arrival in a foreign port, under the law, the captain may, if he desire, discharge the unsound men, but must pay three months' wages, and discharge them before the United States consul. The consul returns the men to America at the expense of the fund for the relief and protection of American seamen in foreign ports, and upon their arrival here the men find their way once more to the hospital, when, after a few months' "patching up," they are again shipped by some "boarding master;" and the same circumstances are repeated, aggravated in many instances by the length of time the disease has been in existence.

These men are well known to the medical officers of this service, under the name of "hospital birds" and "revolvers." It is believed that the provisions in section 2 of this bill will, in a great measure, obviate this serious disadvantage under which American commerce labors, by holding the benefits of a snug harbor, in case of disability contracted in line of duty, before persons when physically examined as a preliminary to shipment. The advantage to ship-owners and to commerce of having sound crews is too self-evident to require argument. Furthermore, the relief to the marine-hospital fund that would follow the enactment of the law for the physical examination of seamen, as preliminary to shipment, would be very great, and have the

effect to carry out the intentions of the founders of the service, who, it is apparent, intended the marine hospitals for hospitals, and not for almshouses. Moreover, many of these seamen are, in but few instances, properly subject to the poor laws of the municipality where they happen to have been thrown upon the charities of the world, inasmuch as their residences may be hundreds of miles distant.

Another argument, which must force itself upon the mind of any person considering this subject, is based on the number of foreigners at present engaged on American ships. But few Americans now enlist before the mast, and it must be admitted that many of those now shipping in our vessels are perhaps the worst class of seamen in the world.

A thorough physical examination, a weeding out of the vagrant, incompetent, worthless class, would induce young men of our own country once more to apply for service, with the assurance that they would be thrown among sound men, and that no more than the ordinary duties of their position would be forced upon them through the helplessness or incapacity of their shipmates.

Section 1 of House bill No. 6610 provides for the establishment in the District of Columbia, under the direction of the Supervising Surgeon-General of the Marine-Hospital Service, of a National Snug Harbor. It is believed that it should be established in the District of Columbia, because it is the most central point and most easily accessible, and in order that it may be directly under the supervision and management of the responsible head of the service. Furthermore, as there is no United States hospital for the merchant-marine sailors between New York and Wilmington, N. C., it is a central point to which all the more chronic cases could be transported from places in the immediate vicinity. The patients are now boarded at the Providence Hospital, in this city, under a contract. Over the management of this hospital neither the Supervising Surgeon-General nor the medical officer attending the patients have any control. Furthermore, the Treasury Department is now paying rent at the rate of \$1,800 per annum for the office of the Supervising Surgeon-General, and \$40 per month for storage of the more bulky stores of the purveying depot and laboratory is paid from the fund.

Section 2 of the bill is necessary in order that the benefits of the snug harbor shall be confined to the *bona-fide* seamen, as, were it otherwise, persons would serve a few weeks or months, as the case might be, and then become entitled to the benefits of a snug harbor, created for sailors only. The latter provision in section 2, relative

to shorter service than five years, is necessary to cover cases where the applicant has engaged in seafaring pursuits a healthy man, and, by reason of injury or disease contracted since his enlistment, has been rendered helpless.

It is believed that the limitation in section 3 is absolutely necessary, especially during the first few years of its establishment, as the number of superannuated and incurably-diseased sailors throughout the United States would nearly fill the institution within a few months after its opening. It is believed that seamen suffering from venereal affections should not reap the advantages of this charity, and that those pecuniarily able to care for themselves should not be admitted.

Section 4 is absolutely necessary for the proper discipline of the institution.

Section 5 is self-explanatory.

Section 6 is necessary, inasmuch as experience has shown that it is productive of much unnecessary clerical labor and expense to keep separate funds. Furthermore, the decision of the Comptroller of the Treasury, made in 1879, based on section 3618, Revised Statutes, covers the proceeds of sales of the property enumerated in section 6 of this bill into the Treasury, by which decision such receipts are lost to the fund, notwithstanding they may have been originally purchased from it. Attention is invited in this connection to page 14 of the annual report of this service for the year 1879. Regarding the sales of unclaimed effects left by deceased seamen in the hand of customs officers, attention is invited to the annual report of the Secretary of the Treasury for the year 1880.

Section 7 is self-explanatory.

Section 8 is necessary to prevent frauds against the fund. Many such have been discovered from time to time, and it is believed that it should apply to the general service quite as much as to the special object of this bill. There is now no special provision in law whereby any penalty may be inflicted upon any person defrauding the service. Notwithstanding the instances cited of indirect frauds upon the funds by reason of shipment of unseaworthy sailors, there is yet a large class of worthy men who have devoted their lives to the establishment of the foreign and internal commerce of the United States, and who are, by reason of disability contracted in their long and faithful service, unable any longer to gain a livelihood. It is the purpose of this bill, therefore, to provide for this class only; and it is believed that the amelioration of their great necessities will form a not unimportant element in that restoration of the American flag on the high seas which all patriotic citizens desire to see accomplished.

In conclusion, attention is invited to the section relative to the Marine-Hospital Service in the annual report of the Secretary of the Treasury for the year 1880, and to the annual reports of that service for the years 1873, 1874, 1875, 1876-'77, 1878-'79, and 1880, which are herewith transmitted with the passages marked.

NATIONAL SNUG HARBOR.

IN THE HOUSE OF REPRESENTATIVES.

December 14, 1880.

Hon. Thomas L. Young introduced the following bill, which, for want of time, was not acted upon:

A BILL to encourage American seamen, and to provide for aged, helpless, and disabled seamen, and for other purposes.

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled, That there shall be established in the District of Columbia, under the direction of the Supervising Surgeon-General of the Marine-Hospital Service, a National Snug Harbor; and the Secretary of the Treasury is hereby authorized to purchase a site, and cause to be erected thereon, from plans to be prepared by the Supervising Architect of the Treasury Department, and approved by the Supervising Surgeon-General of the Marine-Hospital Service, the buildings necessary for the Sailors' National Snug Harbor, including a suitable hospital for the merchant-marine sailors at the port of Georgetown, District of Columbia, medical officers' quarters, and the purveying depot and laboratory of the Marine-Hospital Service.

SECTION 2. That no person shall be eligible to the benefits of the snug harbor unless he shall produce evidence that he has sailed for a period aggregating not less than five years on a vessel of the United States subject to the payment of hospital dues: *Provided*, That no seaman shall be debarred from the benefits of the snug harbor by reason of having served less than five years if he shall produce a certificate from a medical officer of the Marine-Hospital Service that he was physically examined preliminary to shipment, and that his permanent disability was contracted in the line of duty.

SECTION 3. That no greater number than four hundred shall receive the benefits of the Sailors' Snug Harbor at any one time; and seamen

whose disabilities have manifestly arisen through faults of their own shall not be admitted, nor shall any seaman be admitted unless it shall be shown that such seaman is without means of support.

SECTION 4. The Supervising Surgeon-General is hereby authorized, with the approval of the Secretary of the Treasury, to frame such special regulations for the government of the inmates of the snug harbor as may be necessary, and the general regulations of the service shall apply as far as applicable; and upon conviction before a board of inquiry of a wilful violation of the said regulations, any inmate of the snug harbor may be summarily dismissed, and shall not again be admitted, except by order of the Secretary of the Treasury.

SECTION 5. That seamen in the National Snug Harbor shall be allowed one ration per day, a tobacco ration, and such necessary clothing as may be allowed by the regulations.

SECTION 6. That all expenses of the maintenance of the snug harbor shall be paid from the marine-hospital fund; and the proceeds of sales of all unserviceable and condemned property, surplus produce, condemned live stock, all unclaimed money, and the proceeds of sale of unclaimed effects left by deceased seamen, and remaining in the hands of the Secretary of the Treasury, or customs officers, shall be credited to the marine-hospital fund.

SECTION 7. That the sum of ——— dollars, or so much thereof as may be necessary, is hereby appropriated for the purchase of a site for the purpose of this act, and the sum of ——— dollars for the erection of the buildings and the necessary heating apparatus and furniture therefor; and after the erection of the said buildings no money shall be expended for the rental of buildings for the use of the purveying depot or laboratory, nor for the maintenance of sick and disabled seamen in any municipal hospital within the District of Columbia.

SECTION 8. That any person convicted before a court of having given a false certificate or affidavit whereby the United States shall be defrauded, under the provisions of this act, shall forfeit and pay not to exceed five hundred dollars, and shall be subject to imprisonment for a period not exceeding three months; and, if a public officer, he shall, in addition, have his commission vacated; and the proceeds of fines collected under the provisions of this act shall be credited to the marine-hospital fund.

SANITARY REPORT

OF THE

UNITED STATES MARINE HOSPITAL AT PORTLAND, MAINE.

SANITARY REPORT OF THE UNITED STATES MARINE HOSPITAL AT PORTLAND, MAINE.

SKETCH OF THE SERVICE AND A CONSOLIDATED SICK REPORT FOR
THE TEN YEARS ENDED JANUARY 1, 1880.

BY EDMUND J. DOERING,
Surgeon United States Marine-Hospital Service.

The hospital at this port is situated in the town of Deering, one of a cluster of villages surrounding the city of Portland. The location is an admirable one, being an elevated site, overlooking the city, and commanding a fine view of Casco bay with its many islands, the ocean in the distance on one side and a landscape of forests, fields, and mountain ridges on the other. The grounds, partly cultivated, comprise about ten acres in extent, and are surrounded on the east, south, and partly on the west by tide-water. The remaining bounds are enclosed by a cast-iron fence, extending to the road on the west, and thence along the north side on the line of the road a distance of about 1,100 linear feet. A natural grove of trees in the rear of the buildings increases the attractiveness of the location, which, indeed, is considered one of the "sights of Portland and vicinity."

It is to be regretted that the same favorable account cannot be given of the hospital proper. No better description can be made of it than is contained in the report of the superintendent of construction to the Supervising Architect in 1871, from which I quote as follows: "The general character of the hospital as a wretched piece of construction even for contract work is too well known at the Department to waste description upon, it being of uniform quality in all its parts and deficient in almost every essential for the health and comfort of its inmates, except an admirable location, plenty of elbow-room, and a very effective system of ventilation, which might be curtailed without disadvantage to the lungs of its occupants."

REPAIRS AND ALTERATIONS.

Much has been done, however, in the past eighteen months to improve this condition, but much remains to be done.

The exterior of the building—both brick and iron-work—has been handsomely painted; the copper roof has been thoroughly repaired and

a flag-staff erected thereon. The interior of the building has been plastered and whitened, with the exception of the third story, which is unoccupied. A partition has been built on the first floor to separate the surgeon's quarters from the other apartments on the same floor, consisting of the dispensary, operating-room, steward's dining-room, attendants' rooms, store-rooms, kitchen, and laundry; the second floor being occupied by the wards, nurses' room, patients' dining-room, bath-rooms, and closets. A bath-room has been constructed in the officers' quarters, which previously had none. The heating apparatus has been improved to admit a better fresh-air supply for the hot-air furnaces, of which there are four, sufficient to heat the building, although each room has in addition a fire-place. The plumbing has been entirely reconstructed under the supervision of the superintendent of repairs. The principal changes were the removal of the lead soil-pipes through their whole length, with all traps, urinal wastes, &c., connected with them, and being replaced by 4-inch cast-iron double-weight pipes, with branches and fittings carried two feet above the roof and capped with cast-iron ventilators. Porcelain-lined traps were placed under each hopper, and all urinal wastes provided with siphon-traps and vented by a 1-inch galvanized wrought-iron pipe. Over each urinal was placed a copper hood, and over each hopper a copper collar, under the seat; each hood and collar being connected with a 2-inch galvanized-iron spiral pipe, joined to a $3\frac{1}{2}$ -inch pipe, rising through the second story, and a 5-inch pipe through the roof, the latter terminated by an Emerson ventilator.

It should be stated here that the water supply of the hospital is limited, and depends upon a large under-ground cistern, from which, by means of a force-pump, a daily supply of water has to be pumped to the different tanks in the second and third stories—hence, the service-boxes, holding eight quarts of water, were arranged to give a flow of water only when seats are relieved of weight, except in the officers' quarters, where the water is let on by the opening of the doors. The closets were finished with black walnut, and arranged for easy inspection of the fittings and fixtures.

New pumps were placed in the kitchens, and hot-water pipes introduced in the patients' bath-room from the laundry, so that the patients of this hospital can now, for the first time, enjoy the luxury of a warm bath without having to carry the water in buckets. This seems incredible when it is considered that this building was originally erected as a hospital at a cost of \$93,738. All the foregoing alterations and repairs have been made in the past eighteen months, at a cost of about \$2,000.

It is hoped that proper authority will soon be granted to undertake other necessary repairs. The whole interior of the building requires painting, also the out-houses and iron fence. Nearly all the windows and doors require more or less repairing. An entire new flooring is needed to the first and second stories, as the boards in the corridors, wards, and most rooms have shrunk, leaving wide gaps between them, rendering them unsightly, and requiring great labor to keep the dirt from accumulating. A new pest-house is required, the present one being a dilapidated structure, and utterly unfit for habitation. It is estimated that it will take about \$5,000 to do this work.

DRAINAGE.

The drainage is very good, having a fall of about seventy-five feet to the tide-water, and being well trapped. No offensive odors can be detected anywhere.

HYGIENIC CONDITION.

The hygienic condition of the hospital is excellent, especially considering that practically the only ventilation consists in opening the windows, rather objectionable in winter in this climate. Hospitalism is unknown; wounds heal rapidly, and often by first intention, and deaths from acute diseases are very rare.

MEDICAL AND SURGICAL STATISTICS.

The hospital has been occupied since 1859, the patients having been under the professional care of the late Dr. S. H. Tewksbury, Surgeon C. S. D. Fessenden, and the writer.

In presenting the following statistics of diseases treated, I wish to say that the original diagnosis of each patient admitted has been verified or corrected, in every instance, by an examination of the record of cases.

Consolidated Sick Report of the United States Marine Hospital, port of Portland, (Deering, Maine,) for the ten years ended January 1, 1880.

Disease.	Admitted.	Recovered.	Improved.	Not improved.	Died.
Small-pox.....	1	1			
Measles.....	3	3			
Scarlet fever.....	1	1			
Enteric fever.....	31	26	1		4
Simple continued fever.....	7	6		1	
Febricula.....	1	1			
Ague.....	114	110	4		
Remittent fever.....	11	8	2		1
Simple cholera.....	3	2			1
Mumps.....	1	1			
Influenza.....	7	6	1		
Erysipelas.....	12	11	1		
Pyæmia.....	1				1
Rheumatism—Acute.....	27	20	5	2	
Gonorrhœal.....	1		1		
Muscular.....	22	21	1		
Chronic.....	116	78	32	6	
Syphilis—Primary.....	121	113	8		
Secondary.....	88	43	41	3	1
Cancer, stomach.....	3				3
Scrofula.....	9	3	3	3	
Scrofula, (<i>phthisis pulmonalis</i>).....	29		12	8	9
Scurvy.....	1	1			
Anæmia.....	2	1	1		
Dropsy, general.....	2		1	1	
Paralysis.....	16	2	6	5	3
Epilepsy.....	7	3	3	1	
Neuralgia.....	18	13	5		
Conjunctivitis.....	6	6			
Ophthalmia, chronic.....	3	1	2		
Ulcer of cornea.....	5	4	1		
Iritis.....	2	1		1	
Cyst of lids.....	1	1			
Valve disease of heart.....	7		3	2	2
Varicose veins.....	1	1			
Suppuration of glands.....	2	1			1
Laryngitis.....	1			1	
Bronchitis—Acute.....	20	18	2		
Chronic.....	44	10	26	5	3
Asthma.....	5	3	2		
Pneumonia.....	24	18	3	2	1
Pleurisy.....	7	3	4		
Tonsillitis.....	4	4			
Gastritis.....	11	10		1	
Hæmatemesis.....	1	1			
Dyspepsia.....	29	19	5	5	
Enteritis.....	20	15	5		
Dysentery.....	17	13	1	2	1
Hernia, inguinal.....	7		7		
Diarrhœa.....	21	17	3	1	
Constipation.....	1	1			
Fistula in ano.....	8	3	1	4	
Hæmorrhoids—External.....	4	3	1		
Internal.....	1	1			
Lardaceous liver.....	1				1
Jaundice.....	4	4			
Gallstones.....	1	1			
Bright's disease.....	5		3	2	
Cystitis.....	12	5	4	3	
Calculus.....	1	1			
Incontinence of urine.....	3	3			
Gonorrhœa.....	37	34	3		
Balanitis.....	1	1			
Phimosis.....	6	4		2	
Paraphimosis.....	1	1			
Epididymitis.....	25	23	2		
Condyloma.....	1	1			
Stricture urethra.....	10	5	4	1	
Urinary fistula.....	1	1			
Orchitis.....	3	1	1	1	
Necrosis.....	5	2	2	1	

Consolidated Sick Report, &c.—Continued.

Disease.	Admitted.	Recovered.	Improved.	Not improved.	Died.
Synovitis.....	1		1		
Dropsy of joint.....	1	1			
Abscess.....	28	23	4	1	
Tumors, non-malignant.....	2	2			
Skin diseases.....	13	9	4		
Frostbite.....	57	52	4	1	
Ulcer.....	40	32	7	1	
Boil.....	6	6			
Carbuncle.....	2	1	1		
Whitlow.....	18	16	2		
Alcoholic poisoning.....	9	7		1	1
Burns and scalds.....	3	3			
Contusions.....	56	46	7	1	2
Sprains.....	39	34	3	2	
Wounds, (lacerated, incised, and punctured).....	18	14	2	1	1
Gunshot wounds.....	3	1	1		1
Fracture of skull.....	1				1
Fracture of inferior maxilla.....	2		1	1	
Fracture of ribs.....	1	1			
Fracture of clavicle.....	2	1	1		
Fracture of scapula.....	1	1			
Fracture of humerus.....	2	2			
Fracture of forearm.....	7	6	1		
Fracture of carpus and phalanges.....	4	4			
Fracture of femur.....	2	2			
Fracture of leg, both bones.....	4	4			
Fracture of tibia.....	1	1			
Fracture of fibula.....	2	1			
Fracture, not specified.....	10	9	1		
Dislocation of shoulder.....	1	1			
Tænia solium.....	1	1			
Total.....	1,361	997	253	73	38

Very respectfully, your obedient servant,

EDMUND J. DOERING,
Surgeon U. S. Marine-Hospital Service.

To the SUPERVISING SURGEON-GENERAL.

SANITARY REPORT

OF THE

UNITED STATES MARINE HOSPITAL AT MOBILE, ALABAMA.

SANITARY REPORT OF THE UNITED STATES MARINE HOSPITAL AT MOBILE, ALA.

BY JOHN GODFREY,
Passed Assistant Surgeon Marine-Hospital Service.

The United States Marine Hospital at Mobile is situated about one mile west from the river, on a square of ground some three and a half acres in extent, fronting upon St. Anthony and running back to Congress, with Jefferson and Bayou streets upon either side.

I have been informed that the building was begun as early as 1834, and finished by the end of the year 1837. However, the earliest official record which I have been able to find represents it as purchased by the Government in 1841. Originally, the building-site comprised about one and one-half acres. To this was added, in 1856, the square of two acres now used as the garden. From about the year 1841—certainly in 1843^a—the building began to be occupied by patients of the merchant-marine, and so continued until the breaking out of the late war. From that time till the fall of Mobile, in 1865, it was used as a military hospital by the Confederates. After the surrender, it was temporarily occupied by the Union forces for the same purpose. When vacated by them, it was leased by direction of the Secretary of the Treasury, and conducted as a marine hospital on the contract system, until September 1, 1875. Since then it has been a hospital of the first class, in charge of an officer of the service.

The hospital is an old-fashioned brick building, size 62 by 162 feet. There are four porticos and four verandas, running the entire length of the wings. It has a basement, two floors, and an attic over the body of the building. In the basement are the kitchen, laundry, patients' dining-room, store-room, &c. The first floor contains officers' quarters, offices, dispensary, and attendants' rooms. The wards are all on the second floor, five in number, two being in each wing, and one for colored patients in the body of the building. The former are 54 feet 7 inches by 15 feet 2 inches; the latter, 17 feet 4 inches by 20 feet 3 inches. The height of the ceilings is only 12 feet. Between the wards are wide halls, running the entire length of the building in both direc-

a Vide Report U. S. Marine-Hospital Service, for 1875, page 10.

tions. Each wing-ward has four doors, two leading in from the halls, the other two out upon the verandas. The wards are amply provided with windows, and each contains a single open fire-place, into which a cumbersome grate has been set. However, it has been found possible to generate a sufficient amount of heat during the winter to render the patients comfortable. In the summer the wards are rarely too warm, on account of the many doorways, the verandas, the thickness of the walls, and particularly for the reason that the building stands in the most elevated portion of the city. The interior woodwork is of the plainest kind; the walls are plastered—"hard-sand finish"—and are subjected to frequent whitewashings.

It will be seen at a glance that the quarters of the sick are too narrow in one direction, and that the ceilings are too low—nevertheless, the sanitary surroundings and hygienic conditions of the sick appear to be as well subserved as they would be by alterations more in conformity to modern views of structure and ventilation. Of course this positive statement could not be made were the size of the service at this port increased to a very great extent; although, if it were quadrupled, there would still be room enough to allow each patient more than a thousand cubic feet of air-space.

The water supply comes from "driven-wells."

The privy-vaults are situated about forty yards from the hospital building. They are simply excavations, bricked and cemented, like the majority in this port. For such patients as are unable to go to the vaults improvised commodes are placed upon the back verandas and rendered private by screens. These are always kept partly filled with carbolized water. This is the best plan that could be devised under the circumstances—not being found to interfere with the purity of the wards, but certainly entailing an extra amount of work upon the ward attendants. A better plan for a hospital like this would be to fill up the vaults and substitute dry-earth commodes, provided one could be sure of getting a commode that would not get out of order under the use of a sailor.

One of the greatest needs of the hospital is a bath-room. With wells situated in the back yard, and the water all to be got by pumping, and then carried by hand into the building, it becomes apparent that bathing can only be done in the most primitive way. The remedy for this would be two large elevated cisterns.

At present, the hospital and out-buildings are undergoing repairs which, while they will lend but little to the sanitary status, will yet add somewhat to the comfort of those having the patients in care, and

greatly to the general appearance of the building. To mention one item—a dumb-waiter is building from the basement, near the kitchen, to the ward floor. Hitherto meals, medicines, water, in fact everything, had to be carried by hand up two flights of stairs, which worked a hardship to the nurses, and consumed much time that should have been given to the sick-room.

But whatever its defects from a structural point of view, and whatever its inconveniences in the way of administration, experience shows that the hospital bears a good sanitary record. Disinfection is a light task. At no time have the wards had to be vacated for purification, except twice, when patients died of catarrhal phthisis, and that mainly on account of the odor. At no time, so far as I can learn, even when the service was vastly larger than at present, has the hospital ever been troubled with septicæmia or gangrene; and during my charge there has never been the least degree of that peculiar effluvium known as “hospital odor.” Wounds of all kinds invariably heal kindly, and there is never the slightest need for any antiseptic precautions, except those that pertain to simple cleanliness.

During my administration, only one capital operation has been done, and although the subject was a bad one, the wound healed rapidly with the simplest dressings. Urethral fever has never occurred from stricture treatment, and minor operations get well so rapidly as to leave the surgeon in doubt as to what credit is due himself.

Since I came in charge, (September 28, 1878,) to date,^a there have been 498 patients treated in-doors, with a mortality of 16, or a fraction over three per cent.

The following statement, it is believed, will express the hospital's sanitary status better than a lengthened description. It is offered solely to show that the hygienic surroundings must have been favorable, for none but incurables to have died, except in three instances marked thus, * and in these it will be seen that death was inevitable:

^a June, 1881.

Mortality report from September 28, 1878, to June 13, 1881.

Causes of death.	Number.	Remarks.
Bright's disease, chronic	2	
Pneumonia, lobar	* 1	Patient taken while drunk. Exposed on river-boat five days.
Burn of chest, neck, and arms ...	1	Tetanus. Ear and pharynx burned.
Locomotor ataxy	1	
Ague, cerebro-spinal congestion ..	* 1	Admitted comatose. Lived six hours.
Phthisis pulmonalis	5	
Delirium tremens	1	Fatty heart. Wounded in fight. Profuse hemorrhage.
Do	1	Both lungs hepatized when admitted. Aortic insufficiency. Liver and kidneys diseased.
Aneurism, aortic, fusiform	1	
White softening of the brain	1	
Ague, cerebral congestion	* 1	Acute mania. (See post-mortem report.)
Total	16	

Very respectfully,

JOHN GODFREY,

Passed Assistant Surgeon Marine-Hospital Service.

To the SUPERVISING SURGEON-GENERAL.

REPORTS ON BERI-BERI.

A.

“BERI-BERI,” AT THE UNITED STATES MARINE HOSPITAL, SAN FRANCISCO, CAL.

BY E. HEBERSMITH, M. D.,
Surgeon United States Marine-Hospital Service.

The Brazilian steam-corvette “Vital de Oliveira” arrived in the harbor of San Francisco, Cal., August 20, 1880, after a passage of forty-four days, under sail, from Yokohama, Japan. There had been five deaths on board since sailing from Yokohama, and many of her crew were sick on their arrival at this port.

The “Vital de Oliveira” sailed from Rio de Janeiro for a cruise around the world, November 14, 1879. She was to convey the Admiral of the Brazilian Navy in his diplomatic mission in Chinese waters, and had on board, at different times, officers and men, including supernumeraries, a total of two hundred and forty to two hundred and sixty men. On leaving Rio de Janeiro, the ship crossed the Atlantic and touched first at Lisbon; she then passed through the Mediterranean sea, stopping at Gibraltar, Toulon, Malta, and Port Said; thence through the Suez Canal, calling at Ismailia and Suez, she passed through the Red Sea and, entering the Indian Ocean, she arrived at Aden, in Arabia, the following May. There had already been considerable sickness on board, of the usual variety; one man had died at Ismailia, of consumption. At Aden the first case of beri-beri appeared, and two men were invalided and sent home from there. From Aden to Ceylon the sickness increased, and the general hygienic condition of the ship was beginning to attract special attention. It is related that “with short trips, fresh food, wine, baths, arseniate of soda and strychnia, ferruginous preparations and quinine, the sick improved very much.” The vessel remained but a few days at these latter places before proceeding on her voyage to Hong-Kong, touching at Singapore two days *en route*. The ship remained twenty days at Hong-Kong, and one man was left in hospital. From Hong-Kong the ship proceeded to Yokohama, Japan, from which port she sailed for San Francisco July 8, 1880.

From the time the ship left the Indian Ocean until she had nearly reached these shores, she was in a succession of rains and fogs, which,

added to the natural heat of the regions, caused the men to suffer greatly. The diseases were diarrhœa and dysentery, asthma and bronchitis, besides beri-beri. The Admiral, who had not joined the vessel until she entered the Mediterranean, left her at Hong-Kong on account of the continued sickness on board, and then ordered her home. This action was the result of a growing conviction that the unhealthy condition of the crew was due more to their bad hygienic surroundings than any climatic influences. An examination of the ship, after her arrival here, confirmed this view, and the following notes of an inspection of the vessel and her accommodations for the crew will be found of importance, as a preliminary intimation of an existing cause. She was a fine specimen of naval architecture to look upon, and her builders had endeavored to make a superior vessel in every respect; but the defects in this instance were in her outfit and in the internal arrangement for the accommodation of the men. The medical officers are not responsible for the disasters that followed, for the intelligent surgeon of the ship had warned his government of her defects and of the fatal results that might be expected.

The berth-deck, or space allotted for the accommodation of the crew, was encroached upon by engine-room protruding through the deck from below, by closets and pantries, state-rooms and store-rooms, racks for bags of clothing, three cooks' galleys enclosed by heavy wire-screens, and by the sick bay in the bow of the ship, until the cubic air-space was reduced to less than fifty feet per man. The infirmary was partitioned off by a bulkhead, but, as it was without hatch or communication with the outer air, other than by the usual air-ports, which could only be made available while in port, or in very fair weather, the air in that quarter was the same as upon the berth-deck. Running around the berth-deck, just beneath the spar-deck, and extending through the officers' quarters, was the fancy open wood-work so often seen, to allow escape of air and exhalations from the hold and bilges through the intercostal spaces into the space set apart for the men.

It is related that the vessel was without proper food and clothing for the men from the start; "not having any fresh vegetables, not even potatoes; no liquid stimulants or lime-juice, no woollen clothing."

In aggravation of the deficiencies and errors of construction and outfit, must be considered, also, the daily routine of the ship, which was so objectionable that the Admiral found it necessary to make some radical modifications. Indeed, it is but repeating the words of the Admiral himself, in speaking of the hygiene of the ship, to say that it was "the worst possible."

That these unfavorable conditions of air-space, food, and clothing did play an important part in producing the unusual amount of sickness and loss of life among the crew of this ship is unquestionable. There was no case of beri-beri among the officers of the ship; there was no unusual amount of sickness among them, although the same race of men, subjected to the same preliminary influences. They were not so much overcrowded, their food provided by themselves was more varied and suitable, and they provided their own clothing.

Such, then, were the conditions and the circumstances under which the "Vital de Oliveira" took her departure from home; her medical officers protesting and predicting the disasters to the health of the crew which were to follow, and to cause her cruise to be abandoned in a few months; herself sent home as speedily as possible; the whole object of her mission frustrated; the lives of fifteen of her crew sacrificed when she had arrived at this port, and many others left at this and other hospitals to follow on, should they perchance survive the terrible physical strain to which they had been subjected by the violation of sanitary laws.^a

There were admitted to the United States Marine Hospital at this port, August 21, 1880, from the "Vital de Oliveira," eighteen cases of sickness, and on the 25th of August three more cases, making a total of

^a I should not have felt at liberty to speak thus freely of the conditions and imperfections of this ship, had I not been invited to do so by the officers of the vessel. The admiral, fully alive to the importance of the lesson to be derived from the unfortunate experience, urged unsparing effort both to discover and lay bare faults and defects, whatever their nature. A free expression of personal opinion was desired and promised.

Briefly, then, this ship had not proper hygienic accommodations for one-third the number of men she carried on her berth-deck. The highest sanitary authorities fix three hundred cubic feet of air per man as the least that should be allowable on board any ship, and even this will be found sadly deficient unless means are provided, and great watchfulness employed, in securing rapid removal of vitiated air. Whatever else is done with the air from the hold and bilges of the ship, one thing common sense dictates should not be done, and that is, allow it to escape into the ship's lining or into the sleeping apartments of the officers and men. There would be no difficulty mechanical ingenuity could not overcome, in drawing the air from the hold, bilges, and closed spaces generally, and discharging it by means of exhaust-fans or suction, utilizing the furnace fires for that purpose, if marine architects and governments were sufficiently impressed with the importance of so doing.

It would be just as easy to arrange for the sick in cots behind screens in the waist of the ship, as to assign them the narrowest, worst lighted and ventilated, and all together most uncomfortable spot on the whole deck. The advantages of the screen being that when there were no sick, there would be no sick-bay, and the space screened off could be at all times regulated by the number of sick to be provided for.

In these days of preserved and compressed, condensed and desiccated meats, vegetables, and milk, there is no excuse for men at sea being ill-fed. There should also be a wine ration. I am no advocate of the old-time spirit ration. It was a great curse, and its abolition was a wise and necessary step; not because it was wrong in principle, but simply because the wrong liquor was used. The mistake was in not providing a substitute. No one who has knowledge of the comparative healthfulness of seamen coming ashore from long voyages, in which wine has been a part of the daily allowance, as compared with those who have used strong drink or none at all, can doubt for a moment the beneficial effect of moderate wine-drinking at sea, and nothing can contribute more beneficially towards the promotion of cheerfulness and contentment; besides, it is one of the best anti-scorbutics known. With good wine at from forty to sixty cents per gallon, as in this country, enough might be issued to give the water at least a color and flavor. It seems superfluous to add that warm underclothing should be worn in all climates of the temperate zone.

In making these remarks, the marines, both mercantile and naval, of this and other countries have been as much in mind as those of Brazil. In all navies the same conditions are found prevalent to a greater or less extent.

Turner [The Hygiene of Emigrant Ships, by Thomas J. Turner, Medical Director U. S. Navy; American Public Health Reports, 1880] has epitomized the universal experience in these words: "Every tyro in maritime sanitation soon learns to recognize the fact that most of the causes of the morbidity and mortality to which his professional attention is called, are to be found in the condition of the ship rather than that of the passengers and crew."

twenty-one cases, eighteen of which were beri-beri uncomplicated, one case of phthisis complicated by beri-beri, and one case each of phthisis and chronic bronchitis. The two latter cases were of no special interest, and will be dismissed with the simple statement of these facts: the patient with chronic bronchitis improved, and rejoined his ship before her departure from this port; the case of phthisis was in *extremis* when admitted, and terminated fatally two days later. The case of phthisis complicated by beri-beri was of interest; but inasmuch as it was impossible to determine how much of the phenomena were due to phthisis and how much to beri-beri, the case was without value for the purposes of this report, and it will be dismissed with the statement that all symptoms that could be referable to the complicating disease disappeared in a few weeks, and the case terminated fatally as an ordinary case of phthisis, January 6, 1881, four and a half months after admission.

Of the eighteen cases of beri-beri, two were moribund when admitted, and died within twenty-four hours; one died five days after admission. The remaining fifteen recovered and were discharged—four on the 20th of September, seven on the 20th of October, and four on the 20th of December.

The cases of beri-beri admitted to this hospital being the first recognized cases of the disease in this country, certainly on this coast, their advent naturally excited great interest among medical men. Many of the physicians of San Francisco, including Professors Gibbon, Wythe, and Hirschfelder, of the Medical College of the Pacific, visited the hospital and took part in the study of the disease; the latter gentleman making frequent visits for the purpose of procuring microscopic specimens and sphygmographic tracings.

As a knowledge of the locality in which a given disease prevails is necessary to the successful determination of its etiology, particularly when confined to such circumscribed geographical limits as is the disease under consideration, little will be said upon that subject in this report. This want of knowledge of the local conditions has doubtless contributed in no small degree to the doubt and obscurity that surround the subject of the etiology of beri-beri.

Although the disease has been known and recognized by writers for more than three hundred years, Swaring finding hints of it in the *Collectio Hippocratica* as having been observed by ancient authors, it is but recently that any real progress has been made in determining the precise place in medicine which this disease should occupy. The study of a few isolated cases at a point remote from the natural habitat

of the disease would throw but little light upon the question of its origin; still it is hoped that something has been added to our knowledge of it by the study of the cases under consideration, although it may be but confirmatory of views previously advanced.

It has been suggested that the cases at this hospital were not fully-developed specimens of the disease, and hence any conclusions drawn from them would be of questionable value. While prepared to admit that the remark is true of several of the cases which seemed to be of a mild type, yet a glance at the clinical histories of the other cases will, it is believed, completely refute that statement as applied to them.

Without detailing the various theories that have been advanced from time to time by different writers in classing the disease—now as a form of scurvy, now as a paralysis of the cord; again as a form of Bright's disease, or a perimyocarditis, with its consequent thrombosis, emboli, and fatty degeneration—it will be sufficient to state that the weight of evidence is with those authors who consider the disease due to a specific poison of telluric origin, having a limited and sharply-defined range. According to Swaring, beri-beri is the result of a mephitic poisoning, in consequence of long-continued presence in dirty, close, confined, and badly-ventilated rooms, and especially in such sleeping apartments. The height of the development of the disease stands in a direct relation to these causes, and ceases with their removal. Most cases occurred in prisons, the seasons having less influence than overcrowding.

Dr. Simmons,^a a more recent writer, says: "My own investigations have led me to the almost definite conclusion that its exciting cause is a specific miasm or soil exhalation, which, like paludal malaria, shows itself in more less well-defined areas."

The primary effect of this poison is to produce certain morbid changes in the blood, from which all the progressing symptoms, the disturbance of the functions of the spinal cord, the anæmia, the effusions and anasarca, follow in natural sequence. Any depressing cause, particularly the conditions to which the men on board the "Vital de Oliveira" were subjected—anything that predisposes to the development of disease in general—predisposes to an attack of beri-beri, *when the specific poison is present in the blood, and not otherwise*. Thus it is held that the unsanitary condition of the "Vital de Oliveira" caused the development of much sickness—consumption, dysentery, diarrhœa—but only those men who had the specific poison of beri-beri in their blood, contracted before joining the ship, and lying dormant awaiting the

^a Beri-beri; or, the Kakké of Japan, by Duane B. Simmons, M. D.; Yokohama: 1880.

train of depressing and exciting causes, developed that particular disease.

Dr. Stewart Eldridge,^a writing of the disease as it appeared on this vessel, says: "If I read aright the history of the outbreak on the Brazilian corvette 'Vital de Oliveira,' as outlined in the *Pacific Medical and Surgical Journal* for September last, the cases appearing on the voyage up to Hong-Kong were recurrent, chronic, or delayed; while a new supply of beri-beri poison was received by the crew at Yokohama, a favorite habitat of the disease, competent both to cause further recurrence and to originate new cases. It will be noticed that the weather while the ship remained in Yokohama was specially favorable to infection, and that many of the causes most strongly predisposing to attack were in operation throughout the voyage."

Whatever the *materies morbi* and etiology of the disease may be found to be, beri-beri is primarily and essentially a disease of the blood, a blood-poisoning, a zymotic disease. Microscopic examinations of the blood reveal uniform, and it is therefore assumed pathognomonic, changes in the corpuscles and liquor sanguinis. These deviations from the normal character of blood are believed to constitute the initial and principal elements in the pathology of the disease. Nearly one hundred examinations of specimens of blood of persons in this hospital suffering from known diseases were made, and in no instance were appearances found like those peculiar to the cases of beri-beri.

The beri-beri blood shows an increase, in all severe cases, of the white corpuscles, a swollen or bursting, shrivelled or stellate, and granular appearance of both the red and white blood corpuscles, commencing in the white-blood disks, the serum of the blood appearing to contain the granular debris of the broken-down corpuscles, and finally white, shining nucleoid bodies, (microcytes or micrococci,) either single or gathered in groups.^b

The leucocythæmia appeared to be coincident with the severity of the attack. In two or three of the mildest cases it was doubtful if there was any increase in the relative proportion of the white-blood corpuscles. Throughout the study of the cases, the amount of leucocythæmia, and the condition of the blood generally, under the microscope, were taken as an index of the progress of the disease, and it was found, as the patients improved, these morbid appearances gave way to a more normal condition. It will be found noted, that on the discharge from hospital of a number of the cases, their blood was in its natural condition.

^a *Pacific Medical and Surgical Journal*, December, 1880, and January, 1881.

^b *Proceedings of the British Medical Association*, 1880.

The presence of leucocythæmia is an important fact, also, in fixing the differentiation of the disease under consideration from idiopathic pernicious anæmia, for Wilkes has discovered that there is no increase in the colorless blood corpuscles in the latter disease.^a

All the cases at this hospital having passed through the early stages of the disease before they had come under our observation, it will be necessary to appropriate some extracts from the writings of others on the prodromal symptoms, so that a satisfactory clinical history of the disease may be presented. Great difficulty was experienced in obtaining information on this point from the patients themselves. Not one of them could speak or even understand the English language, an obstacle that was increased through the inability of our interpreter to express to us clearly at all times the ideas of the patients. The valuable monograph of Dr. Simmons, quoted above, is again selected, as it seems to afford the latest and best description of the disease yet presented to the profession. Dr. Simmons divides the disease into two forms, viz: 1st. *Beri-beria hydrops*, (wet beri-beri,) in which there is a hydramic condition of the blood and distension of the areolar tissue generally with serum, giving the body a bloated appearance. 2d. *Beri-beria atrophica*, (dry or atropic beri-beri,) in which there is a notable deficiency of fluid in the vessels and in the areolar tissue, and early atrophy of the muscles. These two forms of beri-beri were regarded by the early Indian writers as distinct forms of the disease, the latter receiving the name of *barbiers*. In general terms beri-beri may be divided into four stages—prodromic, sub-acute, acute or pernicious, and chronic.

From the very insidious nature of its approach, sometimes extending over a period of several weeks, it is often difficult or impossible to determine the exact time of invasion. It is generally admitted that a residence of some weeks in an infected locality is necessary before any decided symptoms make their appearance. Being a disease essentially of warm seasons, the length of this incubation depends on the particular months during which exposure occurs. As in many other diseases of slow development, the symptoms of the prodromic stage are certain not easily-defined feelings of indisposition, as an occasional sense of chilliness, inaptitude for mental exertion, and, especially, a tired feeling in the lower extremities. A peculiar feature of

^aThe photographs of blood accompanying the detailed histories of the cases give but a very imperfect idea of the conditions observed in the fresh specimens. It was necessary to send the specimens to Washington, and the preservative used—Pacinian fluid—found by Professor Wythe satisfactory for short distance and time, could not stand the severe test of a journey to Washington, involving a week's time.

this stage is, that it is not always steadily progressive, but intermittent, with periods of from three to five days, in which the patient may feel comparatively well. In exceptional cases only, in this climate, (Japan,) does the acute or pernicious form immediately succeed the prodromic stage. A period of uncertain length intervenes, during which the characteristic symptoms appear, and constitute the sub-acute stage. The first symptom is generally anæsthesia of the skin over the anterior tibial muscles, in the tips of the fingers, and around the mouth, in the order given.

Paralysis, in varying degrees, next declares itself in certain groups of muscles, usually those immediately underlying the regions of anæsthesia. As a consequence there is dropping of the toes, causing the patient, while walking, to lift the feet high so as to clear the ground, giving rise to the peculiar gait noted by many observers as characteristic of the disease. A sense of constriction in the muscles of the calves is usually experienced at the same time, arising from a veritable contraction, which causes their enlargement and hardness, with tension of the tendo Achilles, increasing the difficulty of lifting the toes. A feeling of tightness in the chest usually accompanies this condition, due, no doubt, to some degree of paralysis of the muscles of respiration. If firm pressure now be made upon the muscles, more or less tenderness will be found to exist, especially noticeable in those groups occupying the posterior part of the leg, the inner sides of the thighs, back of the forearm, and the upper part of the chest; or it may be general, but less in degree. More or less heart palpitation is complained of by the patient on making any considerable exertion. Up to this point the symptoms are common to both forms of the disease; to them the characteristic feature of beri-beria hydrops is now added, viz., anasarca. Its first manifestations are in an œdematous condition of the areolar tissue of the anterior part of the leg. That this is more or less general, even at an early stage of the affection, is evident from the plump appearance of the subject, and a certain sallow-white color of the skin, especially that of the face.

The cases of the disease in this hospital exhibited the two forms spoken of above, the wet and dry—beri-beria hydrops and beri-beria atrophica.

I.—GENERAL APPEARANCE.—The subjects were a fine-looking set of men, having all undergone a physical examination before admission to the Brazilian navy. Half of them, however, were unable to walk into the wards, and the stretchers were required to convey them to the cots. Some were entirely helpless, and the rest were more or less im-

paired as to locomotion, either needing strong support, or exhibiting a shuffling, labored gait. The adynamia of beri-beri consists largely in the inability of the legs to support the body. The patients may be feeling well, but in attempting to walk they require support, or sink to the floor. In moving from place to place, they will often crawl on their hands and knees. It is more of an ataxia than a paralysis, though, in severe cases, there is actual paralysis, rather of groups of muscles, than of all the muscles of the limb.

II.—DIAGNOSIS, DIFFERENTIAL AND POSITIVE.—Idiopathic pernicious anæmia, with which the disease is most likely to be confounded, has already been spoken of. The first suspicions that arose in the process of diagnosing the disease in question led to the inclusion or exclusion of scurvy, with which beri-beri has been confounded. From the fact of the disease being peculiarly liable to attack sailors, the inference was natural that it must be like scurvy, if not a form of the disease itself. But the diseases bear no resemblance to each other, either in symptomatology or pathology. In scurvy, the gums and mucus tract, and external tissues of the body, skin and subcutaneous areolar tissue, are involved, and internal organs not at all, unless the disease progresses to a fatal termination by exhaustion. There are no nervous phenomena peculiar to the disease. In beri-beri, on the contrary, the external tissues are objectively sound; the gums, teeth, and buccal mucus membrane are natural, with the exception of slight pallor of the latter; but the internal organs are the chief sufferers from the pathological lesions. The nervous phenomena are also a prominent feature. The subcutaneous areolar tissue is affected, it is true, in the wet form of the disease, but it is of entirely different nature from that of scurvy. The effect in scurvy is to render the limb hard to the touch, feeling like wood; whereas the œdema of beri-beri is soft, pitting on pressure.

III.—PULSE.—The character of the pulse may be judged accurately from a study of the sphygmographic tracings delineated elsewhere. There were 748 observations taken of the character and frequency of the pulse, the highest rate of which was but 135 per minute, reached once by a patient, whose pulse never fell below 92 during his stay. The maximum average of the records is 112, and 76 the minimum, leaving 99 for the mean average of frequency. As a general thing, the pulse was dicrotic, of weak or moderate tension, and easily compressible; but the principal point worthy of notice is its relation to the temperature. It was early observed that the two phenomena gave no adherence to the usual rules of pathology. Pulse and temperature bore no relation to each other, for frequency of the former with lowness of the latter

was the rule rather than the exception. With a pulse of 105 was noted a temperature of 35.1° C. in one patient, (Rocha;) 104 to 35.9 in a second, (Castilho;) 116 to 36.4 in two others, (Maria and Pedro;) and 109 to 36.3 in a fifth, and so on—instances picked out at random from the clinical charts.

IV.—TEMPERATURE.—In consonance with the theory of blood degeneration, maintained in this report, it will be noticed that the general range of temperature is low, being below normal in over half of the observations. Of 748 records of temperature made, 408 show the bodily heat to be below the normal standard. Of these, 242 occurred in the morning and 166 in the evening; but to obtain a correct comparison between the two, 56 must be subtracted from the morning and 16 from the evening observations, when there were no corresponding notes of temperature made. This leaves the equalized result, 186 morning and 150 evening temperatures below the normal standard out of a total of 676 thermometric records. This shows a decided departure from the usual variations of temperature observable in morbid phenomena, besides pointing to the devitalized condition of the blood, and the feeble chemical changes taking place therein. The highest temperature recorded reached 40.4° C., and that but once in 59 observations. The next arose to 39.2° , and the third highest 38.9° , but once each. The average of the highest recorded temperatures is but 37° , while the average of the lowest falls to 35.6° . Two cases (one fatal) fell to 34° , (!) one to 34.6° , two to 35° , one to 35.5° , three to 35.7° , three to 35.8° , five to 35.9° , and nine to 35.9° . In all this low range of temperature there was not seen the great constitutional depression usually witnessed in a similar decline. The patient, (Rocha,) who had at one time a temperature of 34° , was as active as any of his comrades with a normal record, and was not prevented from joining in their recreations. It may be well here to allude to a remarkable feature in this patient, which, perhaps, is unparalleled in any non-fatal case of any disease on record. In twenty-four hours his temperature fell, under the action of pilocarpin, from 40.4° to 35.1° , (almost ten degrees F.,) without any apparent alteration in his systemic condition. In two days after it had risen to 39.6° , but under the same influences fell in the same time to 35° , (over eight degrees F.,) without any perceptible influence upon his usual activity in joining the sports of his companions. Other instances of similar variation could be enumerated, if necessary, to emphasize this point.

V.—DIARRHŒA.—Looseness of the bowels was noted in eleven of the cases, and the character of the discharge was not materially different

from ordinary diarrheas of watery consistency. It usually ushered in the disease, but generally disappeared in a few days after admission. In one fatal case, (Martin's,) there were profuse evacuations continuing till death, and they were observed to be an olive-green color, and very thin.

VI.—URINE.—It was observed early in the progress of these cases that the amount of urine secreted in the twenty-four hours was variable. A careful record of all the cases was made, extending over a period of some three weeks, but, unfortunately, it has been misplaced or lost. A memorandum of the most remarkable example, however, was preserved in another place, extending through daily notes of ten days, during which time the quantity voided fell thrice to 100 C. C. in a day. This was the patient (Rocha) who exhibited, in addition, the diversified temperature referred to above. His record is here given as an example of the quantitative micturition noted in all the cases, though in none of those that recovered was the minimum of this case reached:

September 13.....	100 C. C.	September 18.....	650 C. C.
September 14.....	1,000 C. C.	September 19.....	2,000 C. C.
September 15.....	1,000 C. C.	September 20.....	100 C. C.
September 16.....	500 C. C.	September 21.....	100 C. C.
September 17.....	650 C. C.	September 24.....	2,000 C. C.

VII.—THE OEDEMA AND EFFUSIONS.—There was observed to be uniform cardiac effusion, the upper border of which extended to the second intercostal space in two cases; to the superior border of the third rib in four cases; to the inferior border of third rib in three cases; to the third intercostal space in two cases, and the rest not so marked. The right border extended to the right border of the sternum and beyond in seven cases; to the median line of the sternum in seven cases, and to the left border of the sternum in four cases. The apex beat generally within the lower line of cardiac; dulness was observed to be at the fourth intercostal space, at and within the mammary line, in four cases; at same between paristernal and mammary lines in three cases; at the fifth intercostal space, at and within the mammary line, in five cases; and as low as the seventh intercostal space, within the mammary line, in one case—(Silva.) The form of dulness was generally that of a truncated cone. The general hydrops was not present in every case, but seven persons presenting oedematous condition of abdomen or extremities, (Elias, Silva, Paixao, Rocha, Freitas, Pedro, and Manuel,) and it was noticed that those patients who had the pain in the calf of the leg did not have oedema, with two exceptions, (Freitas and Pedro.) In one case (Paixao) there was immense bilateral pleuritic exudation, with abdominal ascites and oedema of extremities,

which several times threatened to terminate fatally, but the subcutaneous injection of pilocarpine relieved the tension at once, bringing down the number of respirations from fifty-two to twenty-four in a few hours. Heart murmurs were not detected in any of the cases, but the *bruit de diable* was heard in several instances.

VIII.—PHENOMENA OF THE NERVOUS SYSTEM.—The principal symptoms indicating lesion of the nerve centres was confined to the lower extremities. The intellect was unimpaired, so far as could be determined. The patients all slept without disturbance. Ordinary tactile sensibility was unimpaired, and in fourteen observations of the tendon reflex it was found present in nine cases, of which two were noted as excessive and one feeble; absent four cases, of which one was noted “reflex of sole of foot present and increased,” and one case present in right, but not in left knee. The neuralgic disturbances centred principally in the calves of the legs, and were a constant and uniform source of annoyance to the patients in the early stages of the disease. The ataxic gait, however, remains to be described as the most prominent expression of the nervous lesion, and, even then, not much can be added beyond the qualifying adjective to present its features to the profession. In saying that it resembles to a marked degree the peculiar gait of a person suffering from progressive locomotor ataxia, the whole subject will be completed. How much of this characteristic step is due to lesion of the cord, and how much to weakness and degeneration of the muscles of the lower extremity and œdema, is still an open question. The anæsthesia of the skin is one of the last symptoms to disappear, as well as one of the first to appear. The patients invariably characterized it as a sleepy, numb, or dead feeling.

IX.—THE APPETITE.—This proved to be a marked and interesting feature. It was found necessary to increase the diet-list of the hospital to satisfy the demands of these patients for food. Although the regulation allowance at marine hospitals is above the average requirement of men in health, (“in order not only to repair the waste from present use, but to make good past waste from disease,”) yet that even was found inadequate. This was not from any defect in quality, for the men were not at all fastidious, but solely in quantity. In addition to the regular meals, the patients were allowed milk *ad libitum* at their bedsides. Notwithstanding all this, five of them went to a neighbor's one day, without the knowledge of the medical officer, and implored the lady of the house to prepare for them a meal of chickens. She made a fricassee of three full-grown fowls, which

when served filled a milk-pan. The five men ate it all. In the words of the woman, they "cleaned the dish." In the case of the patient who died four days after admission, his constant request was for food, and not until within a few hours of his death did his stomach reject it.

Paixao and Rocha, in whose cases the prognosis was unfavorable—the latter being one of the party of five referred to—the appetite was noted as ravenous. Soon after admission, the former, then almost in *extremis* from abdominal and pleuritic exudations, in reply to a question as to his food, said that he wanted "anything and lots of it." In none of the cases did any bad results follow the excessive indulgence in food. The processes of digestion and assimilation seemed to be unimpaired.

X.—POST-MORTEM APPEARANCES.—Autopsies were made in each of the three fatal cases, but, aside from verifying the observations of others, nothing of interest was discovered. Rigor mortis was absent. The mottled appearance of the skin was observed; two of the bodies presented a plump, well-nourished appearance; a peculiarity noted during life, due to serous infiltration. In the case in which diarrhœa was the immediate cause of death, effusions were not found, but the spinal cord in that case was found decidedly softened about three centimeters in extent on the upper dorsal region; there was congestion of the spinal membranes and more than the usual amount of serum both in the ventricles and in the canal. Except the softening of the cord in one case, there was no marked abnormality in either the cranial cavities or spinal canals. The liver was noted as much enlarged in one case, and the liver and spleen enlarged and engorged with blood in another case. In one case the peritoneal cavity contained 828 cubic centimeters of fluid, the pleural cavity 1,242, and the pericardium 51; in this case only was the lung tissue infiltrated with serum. The hearts were pale and softened. The auricles and venous systems generally were engorged. The intestines were distended with gas, transparent and congested. The glands and Peyer's patches were enlarged; the kidneys presented no abnormal appearance.

The fatal cases occurring so soon after the admission of the patients, when attention was fully absorbed in efforts to gain control of the disease, a more exhaustive pathological study was deferred, as the prognosis was unfavorable in several other cases; but there were no more deaths. Considering the nature of the disease, it is doubtful if much further light will be thrown upon it by pathological research.

XI.—TREATMENT.—All authors agree in advising the removal of the patients from the infected locality as of the greatest importance. If

this could be promptly done, probably the mortality would be very small. Of the three fatal cases in this hospital, the two that died the night following admission cannot be said to have been under treatment, as they were dying when admitted. The third case, terminating on the fourth day, sank under diarrhœa, which proved uncontrollable. I have characterized the treatment as a system of blood-building. Valuable time should not be wasted with tonics, and in expectation, but building and elimination should go on together. The urgent symptoms caused by oppression from effusions must be promptly met, or the patients may die suddenly in collapse from failure of the heart. The treatment is twofold: on the one hand building, sustaining, and counteracting the tendency to effusion, and on the other hand removing the exudations which have escaped into the tissues and cavities of the body. To meet the first requirement, the abnormal appetite is to be looked upon as affording an important indication. Food and tonics can be used together. The diet must be liberal in quantity and variety. The patients at this hospital took with their food 200 C. C. daily, of a California claret wine, that was more like Burgundy in body than Bordeaux claret. One-half the patients were put upon a mixture of tinctura ferri and potassii chloras as a tonic; the others took the elixir of the phosphates of iron, quinia, and strychnia. These two preparations were used continuously throughout the treatment with no appreciable difference in results. There was evidence to show the value of the wine. One of the patients was found to be not doing as well as his companions, and inquiry developed the fact that he alone of all the patients was not taking his wine, but dividing it among the others. When this practice was stopped, and he used his wine himself, his progress was as satisfactory as the others. Pilocarpin proved to be the most efficient agent for meeting the urgent symptoms. The use of the remedy here was empirical, and based upon indications. Afterwards it was learned that Swaring had recommended it upon theoretical grounds in 1868. It seems to have been used but very little, its depressing effects being feared. According to experience gained in these cases, this danger has been greatly overrated. The drug was used with growing confidence; in no instance did any threatening symptoms follow its use, but, on the contrary, the relief was marked, and on more than one occasion it apparently rescued patients from impending death; notably Paixao and Rocha. (See chart for effect on pulse, temperature, and respiration, from 0.01 gm. dose of pilocarpin, administered hypodermically.) It is confidently believed that one at least of the fatal results would have been averted

by the timely use of the drug. In the case of death from diarrhœa, it was not indicated, as there were no effusions. Hydrogogue cathartics were used as indicated. It is desirable to secure two to four large watery evacuations from the bowels daily; for this purpose, the powders of squill, digitalis, and calomel, with an occasional dose of potassii bitartras or magnesia sulphate were used with good effect.

XII.—CONCLUSIONS.—The patients being removed from the region of infection and placed under favorable conditions, the tendency of the disease is strongly towards recovery. The unfavorable symptoms, as a rule, yield readily to treatment. The results of practice at this hospital certainly justify correctness of theory advanced in regard to the effects produced by the materies morbi, and the methods by which restoration to health is to be brought about, for all the patients who can be fairly said to have been brought under treatment, and apparently recovered, with the exception, perhaps, of the patient who died on the fourth day from diarrhœa. Of course it will not be claimed that the discoveries (if they may be so called) made at this hospital of changes in the blood are conclusive, or as establishing anything definitely. To do that, much further observation will be necessary, particularly in the regions in which the disease prevails. These observations should not be confined to man alone, but should include the lower animals, as horses have been known to suffer from the disease. It may be found that a considerable proportion of the inhabitants of the infected regions have, to a greater or less extent, the same morbid conditions of blood found in these patients, without its producing the peculiar train of symptoms known as beri-beri. On the other hand, it is possible that a microscopic examination of the blood of all the men on board the "Vital de Oliveira," before she sailed from Brazil, would have revealed just those members of her crew who were to suffer from the disease.

Clinical record.

No. 56.—ELIAS, aged 27 years; had been sick fifteen days previous to admission. Sickness came on slowly; diarrhœa at first, frequent watery operations, his legs swelled and felt dead from the waist down. He lost his appetite. He had been forty-one days on salt provisions. He complained of great weakness and pains in the calves of his legs, though able to go to his meals.

Physical examination.—Head and neck normal; bones small; muscles poor; chest broad, shallow, flat; apex beat not palpable in fourth intercostal space, mammary line. Upper border of cardiac dulness, at

second intercostal space; right border, at right border of sternum; left border, in fourth intercostal space, $2\frac{1}{2}$ centimeters within mammary line. Upper border of liver, dulness in fifth intercostal space; left border of liver, dulness $5\frac{1}{2}$ centimeters below arch of ribs; splenic dulness, 11 by 7 centimeters; excessive tympanites; no effusions; no anasarca; sensibility and mobility intact; cardiac tones clear but feeble; pulse increased in frequency; slight arterial tension; tendon reflex present in right leg, absent in left.

Microscopic examination of blood.—Increase in relative number of white blood corpuscles; red globules small and granular, many being broken; rod-like bodies, sarcina, epithelium, and debris.

This was a mild case, in which anæmic symptoms predominated, progressing steadily towards recovery. Discharged with first lot, September 20.

No. 58.—MARIA, aged 26 years; had been sick two weeks, principally with a serous diarrhœa, attended with pain. Accompanying this was pain in the chest and calves of the legs, but he had no swelling or œdema; no diarrhœa after admission. The only thing complained of was weakness. There was sighing respiration and an anxious expression of countenance.

Physical examination.—Short and well-developed. Head and neck normal, chest narrow and deep. Apex beat barely palpable at fourth intercostal space, and situated four centimeters within mammary line. Upper border of cardiac dulness at superior border of third rib; right border, half centimeter inside of left sternal border. Cardiac tones normal. Liver dulness at upper border of fifth rib and 5 centimeters below arch of ribs. Spleen, $14\frac{1}{2}$ by $6\frac{1}{2}$ centimeters. Tendon reflex present. Urine, August 23, sp. gr., 1030; reaction acid.

Microscopical examination of blood.—White corpuscles in large disproportion and in act of breaking up. Red corpuscles more normal, with a few rod-like forms. Organisms like sarcinæ more or less broken up. Pigment granules and epithelium cells, probably from skin, (accidental.)

One of the mild cases, developing no peculiar features worthy of record, and was discharged with the first, (September 20,) the condition of his blood having steadily improved.

No. 59.—PEREIRA, aged 25 years. Sickness commenced with diarrhœa, stiffness or weakness of legs, but no œdema at first. He had also pain in the chest. First noticed swelling of the legs three days before admission. Diarrhœa of short duration. Unable to go to his meals.

Physical examination.—Petite development, and diminished pericardial adiposus. Chest and neck normal. Cardiac dulness upper border, at third intercostal space; right border, at the right border of sternum; left border, two centimeters within mammary line, in the fifth intercostal space. Form of dulness that of a truncated cone. Apex beat one centimeter to right of outside border of dulness. Cardiac tones normal, with accentuation of second sound. Pulse of moderate tension. *Bruit de diable* heard both sides of neck. Liver dulness from upper border of sixth rib to four centimeters below arch of ribs. Spleen, fifteen by five and one-half centimeters. Fluid in right and left pleural cavities. Hydrops of extremities. Tendon reflex, slight on right side, and more marked on left.

Microscopical examination of blood.—Pigment cells; not much leucæmia; many granular red blood corpuscles, shrunk, almost stellated.

The progress of this case was slow and tedious, though he developed no alarming symptoms. His temperature sank several times to 36.1° and 36.3°. The effusions and œdema gradually disappeared. A fine miliary, vesicular eruption appeared over the whole body, lasting several weeks. He was discharged, quite recovered, December 20.

No. 60.—MELLO, aged 22 years. Disease began with pain in calves of legs, but there was no swelling of extremities until a few days before admission. Sick one month. Complaints of dead, sleepily feeling of surface of lower extremities, extending up over abdomen. Anxiety, diminished secretion of urine.

Physical examination.—Cardiac dulness, upper border, at inferior border of third rib; right border, at median line of sternum; left border, at sixth intercostal space to left of mammary line; apex beat at fifth intercostal space, half way between mammary and paristernal lines; cardiac tones clear, but feeble, and pulse dicrotic; plenritic exudation on both sides; anterior splenic border at posterior axillary line. Liver: dulness from lower border of sixth rib to four centimeters below arch of ribs; anasarca of lower extremities; tendon reflex absent.

Microscopical examination of blood.—September 8: Few white corpuscles, which were granular and irregular; red corpuscles smaller than natural; many granular, others swollen, mulberry shape, and evidently breaking up; many small molecules, like microzymes, (micrococci,) seemed to result from disintegration of the corpuscles. Some granular patches of pigment also appeared. September 19: Coinage progresses; hardly any micrococci. (?) September 28: Red blood corpuscles nearly normal; not much leucæmia.

Discharged October 20, recovered.

No. 61.—SILVA, aged 22 years, had been sick three weeks. Symptoms at onset of disease principally referable to œdema of lower extremities. When he entered hospital was unable to walk, and was confined to bed for over a month. He had no diarrhœa.

Physical examination.—Cardiac dulness, upper border, at inferior border of third rib; right border, at the right border of sternum; lower border, at the seventh rib, four centimeters without the mammary line; area of a truncated cone; apex beat one centimeter within mammary line; cardiac tones normal; pleuritic effusion on both sides. Liver: dulness from lower border of sixth rib to five centimeters below the arch of the ribs. Spleen does not reach to posterior axillary line; intense meteorismus; no ascites; excessive muscular feebleness; tendon reflex absent.

Urine.—August 23, 10.30: Reaction acid; no albumen.

Microscopic examination of blood.—September 8: The red blood globules more normal in size than the last patients, yet many are broken; empty cells somewhat like fat cells, but pigmented. September 19: Immense number of micrococci.(?) September 28: Leucæmia still present, but blood corpuscles much better. October 20: Patient greatly improved, but not able to leave with those returning home to-day.

December 20, discharged, recovered.

No. 62.—CASTILLO, aged 24 years. Had been sick about ten days, commencing immediately after rainy weather; got chilled, had diarrhœa, headache, and fever at night; diarrhœa lasted but few days, and was followed by pains in lower limbs, also dead feeling as high as navel. There was no œdema.

Physical examination.—Skin feels hot out of proportion to temperature, (36.3° C.;) cardiac dulness upper border at superior border of third rib; right border at right border of sternum; left border in fifth intercostal space, four centimeters to left of apex beat; apex beat at fourth intercostal space, within mammary line. Systolic elevation covering entire cardiac region. Cardiac tones normal, no accentuation; pulse frequent and of low tension. Liver dulness from fifth rib to 7½ centimeters below arch of ribs. Splenic dulness 14½ by 7 centimeters. Abdomen tympanitic. No anasarca. Respiration, costo-abdominal equiparous. Tendon reflex slight on both sides.

Microscopical examination of blood reveals the same appearance of corpuscles described in other cases. There was leucæmia, much debris and pigment, with broken sarcenæ. September 28, still leucæmia, but otherwise great improvement.

The progress of this case was slow, but without unpleasant accompaniments, and he was discharged fully recovered, December 20.

No. 63.—MARTENS, aged 24 years. This was one of the fatal cases, terminating four days after admission. Diarrhœa the immediate cause of death. Little history could be obtained, because of the lack of an interpreter. He had no œdema or effusions. His respiration was sighing. His countenance was extremely anxious. His urine was strongly acid, of the color of sherry wine, and had a specific gravity of 1015, steadily decreased in amount, suppressed twelve hours before death. The operations from his bowels were of a clayey color, and increased in number every day until the last, when evacuations occurred hourly. There was constant craving for food. He complained of dead feeling in his legs. The temperature was below normal all the time he was in hospital, and on the day before death it fell to 34° C., as indicated in the clinical chart.

The *post-mortem* appearances are detailed elsewhere.

No. 64.—PAIXAO, aged 25 years. Had been sick about one month. No diarrhœa; gradually increasing weakness until time of admission, when he had lost the use of his legs, and was one of the last patients to leave his bed. This loss of the use of his legs was not a true paralysis, as he had both sensation and motion. When strength was returning he waddled about on two crutches, supporting his weight partly by crutches and partly by the natural means of support. He threw out his feet in walking precisely as patients do who suffer from paralysis of the extensor groups of muscles; he had a ravenous appetite, which could not be appeased, with anxiety and puffiness of face.

Physical examination.—Cardiac dulness, upper border at superior border of third rib; right border, two centimeters outside of right sternal border; left border, one centimeter without the mammary line, form of truncated cone; apex beat, fourth intercostal space between peristernal and mammary lines; pulse dicrotic; pleuritic exudation immense on both sides; respiration 52, and sighing; tympanites and ascites; liver dulness from upper border of sixth rib to four centimeters below arch of ribs; tendon reflex absent; ordinary reflex excessive; reflex of sole of foot increased; anterior border of spleen at posterior axillary line; urine scanty, color of sherry wine, and strongly acid, sp. gr. 1028; no albumen.

Microscopic examination of blood.—The red blood globules vary in size—some granular and small, others swollen and broken; a few rod-like bodies present; disproportion of white corpuscles.

September 19.—Very few micrococci; shrivelled blood corpuscles.

September 28.—White corpuscles in disproportion; red vary in size, some granular, with shining nuclei.

October 10.—Abnormal appearances still present, though great improvement noticed since last observation.

This was the first patient to whom pilocarpin was administered. August 22, his respirations having reached 52 per minute, his pulse being 112, and his temperature 38.3° C., 0.01 gm. ($\frac{1}{6}$ gr.) of pilocarpin was administered hypodermically, with the effect of bringing all three conditions down to something like the normal standard. Three days afterwards, his respirations having again gone up to 52, with pulse and temperature correspondingly high, the injection was repeated with the same happy effect. The respirations did not again rise to an unusual height. The injections of pilocarpin were repeated several times after this, not because the symptoms were urgent, but because it seemed to act so effectually in removing the effused fluid.

The recovery of this patient was rapid. From being in an extremely dangerous condition, with unfavorable prognosis, he passed rapidly into a state of convalescence, and was discharged from hospital October 20.

No. 65.—PEDRO, aged 18 years. Sickness commenced with diarrhœa, three weeks before admission, pain in the calves of the legs, and weakness. When admitted, he complained of great weakness, pain in his legs, sleepy feeling of the surface of the lower part of his body, hunger, and pain in his stomach and chest. Face anxious, puffy.

Physical examination.—Edema of the lower extremities; cardiac dullness, upper border at lower border of third rib; right border at right border of sternum, one-half centimeter without mammary line; apex beat three centimeters within mammary line, at fifth intercostal space; area of a truncated cone; cardiac tones clear, but feeble; liver dullness from upper border of sixth rib to two centimeters below arch of ribs; anterior border of spleen extends to posterior axillary line; intense meteorismus; sensibility intact, and tendon reflex present; pleuritic effusion large on both sides.

Microscopic examination of blood.—Specimen showing great disintegration, many granules and rod-like forms, straight or curved, resulting from breaking-up of globules, white corpuscles, increased in number and disintegrating, large number of micrococci. (?)

This was another patient to whom pilocarpin was administered with marked benefit. On the evening of the 24th of August, his temperature being 39.2 C., pulse 132, and respirations 48, the usual hypodermic injection of 0.01 gm. pilocarpin was given, with immediate effect,

reducing pulse to 120, temperature to 37.1° , and respirations to 20. The injections were repeated, as in other cases, not only when symptoms of oppression became urgent, but also to aid the elimination of effused fluid. This patient also made a rapid recovery. His blood cleared up, he ate heartily, he regained strength rapidly, and was discharged, well, October 20.

No. 66.—ROCHA, aged 18 years. This patient, when admitted to hospital, gave a history of swelling of the lower extremities, with gradually-increasing weakness. He had no diarrhoea. Exhibited throughout his sickness marked want of relation between objective and subjective symptoms. Anxiety and puffiness of face marked.

Physical examination.—Cardiac dulness of the form of a truncated cone. Upper border at the superior border of the third rib; right border at median line of sternum; and lower border at sixth rib, one-half centimeter without the mammary line. Apex beat at fifth intercostal space, midway between mamma and paristernal line, there being six centimeters between left limit of dulness and point of apex beat. Liver dulness from the upper border of sixth rib to nine centimeters below the arch of the ribs. Tympanites and anasarca present. Pleuritic effusion on both sides. Tendon reflex excessive.

Microscopic examination of blood.—September 5: Few unaltered blood disks, all of them appearing shrunken in size, and most of them very granular; many were broken, the granular nuclei (?) appearing like dead bacteria; some deposits of fibrin threads and pigmentary granular masses. September 8: Both white and red cells granular and disintegrating; rods and granules numerous, many of the latter shining or bright like nuclei. September 19: Large number of micrococci. September 28: Many granulated red corpuscles, varied, some mulberry-shape, running together, and disintegrating, both red and white, almost fluent character. October 15: Since last observation, patient rapidly convalescing; there is little granular matter present; blood-disks still irregular, but otherwise normal. This patient exhibited so many vagaries of pulse, temperature, and secretions that any analysis of his symptoms would be mere guess-work. The amount of urine voided in twenty-four hours fell three times to 100 C. C.; the diminished secretion of urine was coincident with low temperature. Pilocarpin was repeatedly administered, always with beneficial effect. The last period of low temperature and diminished secretion of urine was on the 21st and 22d of September; neither fell much below normal after that, and when discharged (October 20) he appeared to be, and said he was, well.

No. 68.—SILVA, aged 27 years, had been sick but a few days. First complained of feeling something like a ball in his stomach, for which he was given an emetic. Vomiting was produced, which recurred at intervals, followed by diarrhœa and ensuing weakness. He had no swelling of the legs. He was able to go to his meals.

Physical examination.—Cardiac dulness, upper border at third intercostal space; right border at left side of sternum. Apex beat, and dulness at fourth intercostal space, between mammary and peristernal lines. Liver: dulness from lower border of fifth rib to two centimeters below arch of ribs. Anterior border of spleen at posterior axillary line; pleuritic effusion on both sides; tendon reflex present.

Microscopic examination of blood.—September 8: A large number of white cells disintegrating; the red disks swollen, and many granular. Sarcinæ similar to those mentioned in previous cases. September 19: Coinage present; very few micrococci. September 28: Leucæmia still remains; red disks generally normal; a few independent granules and pigments.

This was a mild case, but its progress was less satisfactory than any of the others. He had one or two apparent relapses, and one or two attacks of diarrhœa, and, after being under treatment three or four weeks, he was having a lower range of temperature than at the beginning. It was found that he had not been taking the wine ordered. After this was discovered, about the middle of September, and he commenced taking his wine regularly, his pulse came down and his temperature went up, his abdominal symptoms disappeared, and his progress towards convalescence was satisfactory and uninterrupted. He was discharged October 20.

No. 70.—ALVES. Sick two weeks. Had diarrhœa at first, but no swelling of the legs. He had pain in the calves of his legs. Had eaten nothing for several days. Able to go to his meals.

Physical examination.—Anxiety; cardiac dulness, usual form; upper border at third intercostal space; right border, one centimeter to the right of right sternal border; left border at mammary line; apex beat in fourth intercostal space, four centimeters within mammary line; liver dulness from sixth rib to five centimeters below arch of ribs; tympanites and pleuritic effusion; tendon reflex excessive.

Microscopic examination of blood.—September 8: Few white cells, yet these granular and disintegrating; red disks more normal, although some are granular. September 19: Coinage present, but few micrococci.(?) September 28: Leucæmia remains, with red blood corpus-

cles breaking up; do not flow together, and quite granular, stellate, and shrunken. October 15: Coinage, some leucæmia, red blood corpuscles much more normal.

Discharged October 20.

No. 71.—PAULO, aged 47 years. His sickness commenced with diarrhœa, three weeks previous to admission, but he had no pain or swelling in his legs. The diarrhœa lasted but a few days, and on admission the opposite condition of the bowels prevailed, with scanty urine. He was able to go to the dining-room.

Physical examination.—Anxiety; cardiac dulness, upper border at fourth intercostal space; right border at left border of sternum, and left border on the line of apex beat, which was in the fifth intercostal space; cardiac tones clear, but feeble; pulse much diminished in tension; liver dulness from lower border of seventh rib to six centimeters below arch of ribs; pleuritic exudation, and enlarged spleen—nine by seven centimeters; tendon reflex absent.

Microscopic examination of blood.—September 8: The red globules more normal, yet many granular, with a few rod-like forms, the liquor sanguinis, cloudy; an excessive number of white cells, which are disintegrating at the edges; an organism like sarcina present; few micrococci.(?) September 28: Red cells more normal; great variety in size of all the corpuscles, some are shrunken and some show a tendency to coin.

There was nothing of special interest in this case, excepting that his recovery was slow. He was one of the last to be discharged, December 20.

No. 79.—MACEDO, aged 39 years; admitted with the second lot, August 25. Sick about three weeks, commencing with diarrhœa and vomiting, and cold skin; had no œdema or pain in lower extremities. He complained much of weakness and dead feeling in his legs, but was able to go to his meals.

Physical examination revealed little abnormality. There was no effusion or œdema. Microscopic examination showed clearly the beriberi characteristics of the blood, but it was a very mild case, progressing rapidly to convalescence. Discharged with first lot, October 20.

No. 80.—FREITAS, aged 23 years; admitted with the second lot, August 25, when the following history was obtained: Had been feeling sick for a month past, having swelling of the lower extremities, and then of the face. He had no diarrhœa, but the leg symptoms—pain in calves and weakness—were present. He complains at present of the "dead feeling" in his legs. Able to go to his meals.

Physical examination.—Little abnormality with the exception of the spleen, which is 12 by 5 centimeters, and moderate tympanitis. There was no effusion. Blood exhibited disintegration and micrococci. (?)

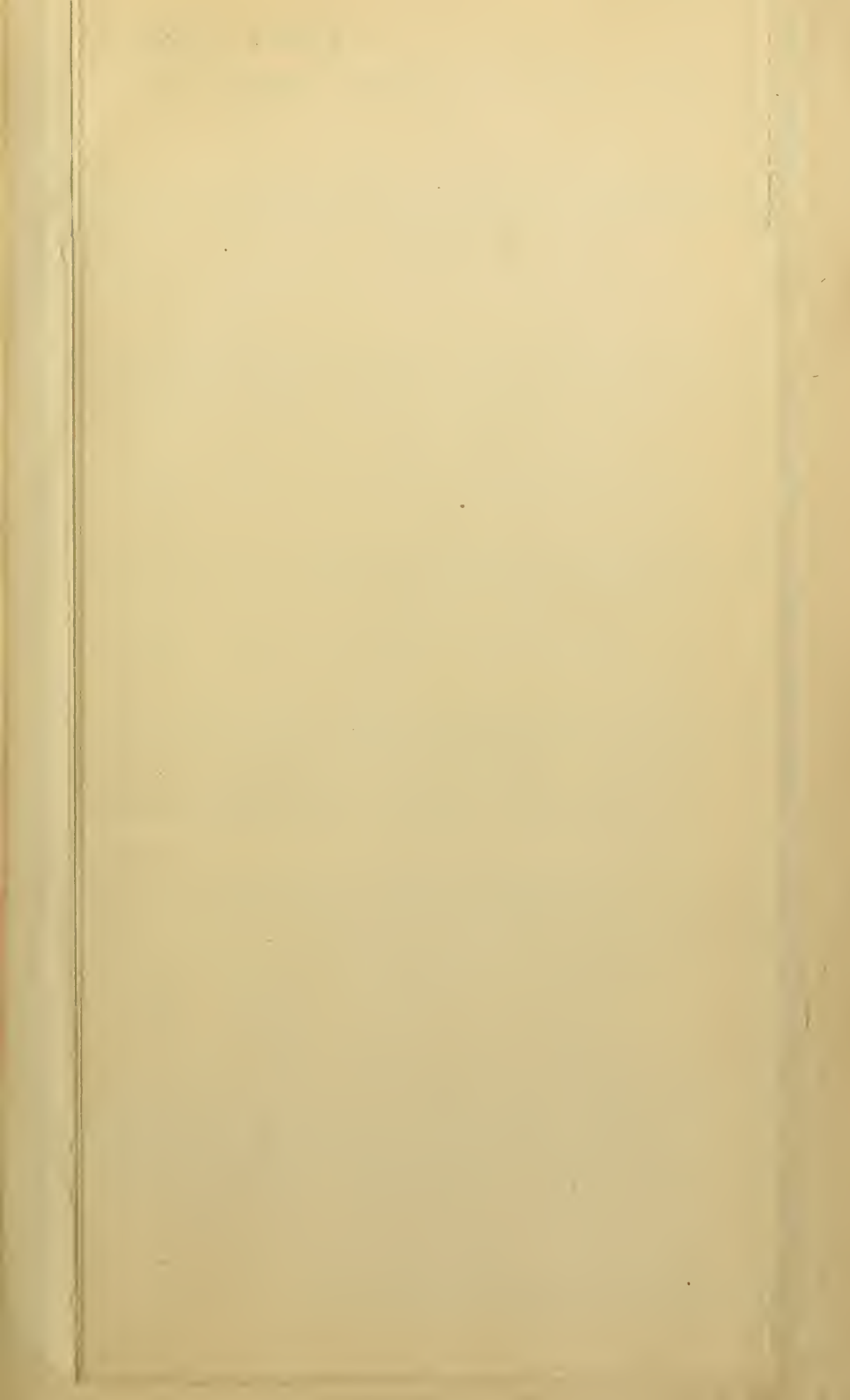
A mild case, progressing rapidly to recovery. Discharged with first lot, October 20.

No. 81.—MANUEL, aged 19 years; admitted with the second lot August 25. He had been sick one month. Sickness commenced with diarrhœa, followed by swelling of the legs and pain in the calves of the legs, numbness, and formication of skin.

Physical examination.—Anxiety, moist skin, hurried respiration. Cardiac dulness, upper border at second intercostal space; right border at median line of sternum; left border on fifth rib, on mammary line. Apex beat two centimeters within outer border of sternum. pleuritic effusions on both sides; *bruit de diable* heard on right side. cardiac tones clear, but feeble; tendon reflex well marked; sensibility intact. Liver: dulness from lower border of sixth rib to three centimeters below the arch of ribs. Spleen 13 by 5 centimeters.

Microscopic examination of blood.—September 5: Large proportion of fibrin and pigmentary deposits. The disks larger than natural; many of them mulberry-shaped. September 8: White corpuscles in act of breaking up; the red more normal, yet many granular, with a few rod-like forms; an excessive number of white cells and an organism like *sarcena*. September 19: Large number of micrococci. (?) September 28: Many of the red disks normal, and others broken and granular. Leucæmia still marked; free nuclei and pigmentary granules.

This promised to be a severe case at first, but yielded readily to treatment; recovery was rapid, although the range of pulse and temperature was high for two weeks; after that, there was but slight variation from normal. Discharged, recovered, October 20.



CLINICAL RECORD

Permit No. 56. Seaman J. F. Elias. Age, 27. Rank or Rating, Seaman. Nativity, Brazil. Admitted, August 21. Disease, Beri-Beri.

Month	Year-Month												Year
	Day of the day												
	01	02	03	04	05	06	07	08	09	10	11	12	
Jan	1	2	3	4	5	6	7	8	9	10	11	12	31
Feb	1	2	3	4	5	6	7	8	9	10	11	12	28
Mar	1	2	3	4	5	6	7	8	9	10	11	12	31
Apr	1	2	3	4	5	6	7	8	9	10	11	12	30
May	1	2	3	4	5	6	7	8	9	10	11	12	31
Jun	1	2	3	4	5	6	7	8	9	10	11	12	30
Jul	1	2	3	4	5	6	7	8	9	10	11	12	31
Aug	1	2	3	4	5	6	7	8	9	10	11	12	31
Sep	1	2	3	4	5	6	7	8	9	10	11	12	30
Oct	1	2	3	4	5	6	7	8	9	10	11	12	31
Nov	1	2	3	4	5	6	7	8	9	10	11	12	30
Dec	1	2	3	4	5	6	7	8	9	10	11	12	31

Permit No. 38. Seaman J. dos A. Maria. Age, 26. Rank or Rating, Seaman. Nativity, Brazil. Admitted, August 21. Disease, Beri-Beri.

[illegible]

Permit No. 59. Seaman J. F. Pereira. Age, 23. Rank or Rating, Seaman. Nativity, Brazil. Admitted, August 21. Disease, Beri-Beri.

Permit No. 60. Seaman A. J. de Mello. Age, 22. Rank or Rating, Seaman. Nativity, Brazil. Admitted, August 21. Disease, Beri-Beri.

Permit No. 61. Seaman Virgilio da Silva. Age, 22. Rank or Rating, Seaman. Nativity, Brazil. Admitted, August 21. Disease, Beri-Beri.

Permit No. 62. Seaman J. J. Castillo. Age, 24. Rank or Rating, Seaman. Nativity, Brazil. Admitted, August 21. Disease, Beri-Beri.

Permit No. 63. Seaman Filippe F. Martins. Age, 24. Rank or Rating, Seaman. Nativity, Brazil. Admitted, August 21. Disease, Beri-Beri.

Permit No. 64. Seaman D. P. Rocha. Age, —. Rank or Rating, Seaman. Nativity, Brazil. Admitted, August 21. Disease, Beri-Beri.

Permit No. 64. *Scapanus D. P. Rocha*—Continued.

Permit No. 65. Seaman Pedro de Goncalves de Paiva. Age, 25. Rank or Rating, Seaman. Nativity, Brazil. Admitted, August 21. Disease, Beri-Beri.

Permit No. 66. Seaman F. A. Pedra, Age, —. Rank or Rating, Seaman. Nativity, Brazil. Admitted, August 21. Disease, Beri-Beri.

Permit No. 67. Seaman L. J. de Silva. Age, —. Rank or Rating, Seaman. Nativity, Brazil. Admitted, August 21. Disease, Beri-Beri.

Permit No. 68. Seaman J. P. Atres. Age, —. Rank or Rating, Seaman. Nativity, Brazil. Admitted, August 21. Disease, Beri-Beri.

Permit No. 69. Seaman M. F. Paula. Age, —. Rank or Rating, Seaman. Nativity, Brazil. Admitted, August 31. Disease, Beri-Beri.

Permit No. 70. Seaman G. D. Macedo. Age, —. Rank or Rating, Seaman. Nativity, Brazil. Admitted, August 25. Disease, Beri-Beri.

Permit No. 71. Seaman F. J. de Freitas. Age, —. Rank or Rating, Seaman. Nativity, Brazil. Admitted, August 25. Disease, Beri-Beri.

Permit No. 72. Seaman E. F. Manuel. Age, —. Rank or Rating, Seaman. Nativity, Brazil. Admitted, August 25. Disease, Beri-Beri.

Month	August	Day	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80	81	82	83	84	85	86	87	88	89	90	91	92	93	94	95	96	97	98	99	100	101	102	103	104	105	106	107	108	109	110	111	112	113	114	115	116	117	118	119	120	121	122	123	124	125	126	127	128	129	130	131	132	133	134	135	136	137	138	139	140	141	142	143	144	145	146	147	148	149	150	151	152	153	154	155	156	157	158	159	160	161	162	163	164	165	166	167	168	169	170	171	172	173	174	175	176	177	178	179	180	181	182	183	184	185	186	187	188	189	190	191	192	193	194	195	196	197	198	199	200	201	202	203	204	205	206	207	208	209	210	211	212	213	214	215	216	217	218	219	220	221	222	223	224	225	226	227	228	229	230	231	232	233	234	235	236	237	238	239	240	241	242	243	244	245	246	247	248	249	250	251	252	253	254	255	256	257	258	259	260	261	262	263	264	265	266	267	268	269	270	271	272	273	274	275	276	277	278	279	280	281	282	283	284	285	286	287	288	289	290	291	292	293	294	295	296	297	298	299	300	301	302	303	304	305	306	307	308	309	310	311	312	313	314	315	316	317	318	319	320	321	322	323	324	325	326	327	328	329	330	331	332	333	334	335	336	337	338	339	340	341	342	343	344	345	346	347	348	349	350	351	352	353	354	355	356	357	358	359	360	361	362	363	364	365	366	367	368	369	370	371	372	373	374	375	376	377	378	379	380	381	382	383	384	385	386	387	388	389	390	391	392	393	394	395	396	397	398	399	400	401	402	403	404	405	406	407	408	409	410	411	412	413	414	415	416	417	418	419	420	421	422	423	424	425	426	427	428	429	430	431	432	433	434	435	436	437	438	439	440	441	442	443	444	445	446	447	448	449	450	451	452	453	454	455	456	457	458	459	460	461	462	463	464	465	466	467	468	469	470	471	472	473	474	475	476	477	478	479	480	481	482	483	484	485	486	487	488	489	490	491	492	493	494	495	496	497	498	499	500	501	502	503	504	505	506	507	508	509	510	511	512	513	514	515	516	517	518	519	520	521	522	523	524	525	526	527	528	529	530	531	532	533	534	535	536	537	538	539	540	541	542	543	544	545	546	547	548	549	550	551	552	553	554	555	556	557	558	559	560	561	562	563	564	565	566	567	568	569	570	571	572	573	574	575	576	577	578	579	580	581	582	583	584	585	586	587	588	589	590	591	592	593	594	595	596	597	598	599	600	601	602	603	604	605	606	607	608	609	610	611	612	613	614	615	616	617	618	619	620	621	622	623	624	625	626	627	628	629	630	631	632	633	634	635	636	637	638	639	640	641	642	643	644	645	646	647	648	649	650	651	652	653	654	655	656	657	658	659	660	661	662	663	664	665	666	667	668	669	670	671	672	673	674	675	676	677	678	679	680	681	682	683	684	685	686	687	688	689	690	691	692	693	694	695	696	697	698	699	700	701	702	703	704	705	706	707	708	709	710	711	712	713	714	715	716	717	718	719	720	721	722	723	724	725	726	727	728	729	730	731	732	733	734	735	736	737	738	739	740	741	742	743	744	745	746	747	748	749	750	751	752	753	754	755	756	757	758	759	760	761	762	763	764	765	766	767	768	769	770	771	772	773	774	775	776	777	778	779	780	781	782	783	784	785	786	787	788	789	790	791	792	793	794	795	796	797	798	799	800	801	802	803	804	805	806	807	808	809	810	811	812	813	814	815	816	817	818	819	820	821	822	823	824	825	826	827	828	829	830	831	832	833	834	835	836	837	838	839	840	841	842	843	844	845	846	847	848	849	850	851	852	853	854	855	856	857	858	859	860	861	862	863	864	865	866	867	868	869	870	871	872	873	874	875	876	877	878	879	880	881	882	883	884	885	886	887	888	889	890	891	892	893	894	895	896	897	898	899	900	901	902	903	904	905	906	907	908	909	910	911	912	913	914	915	916	917	918	919	920	921	922	923	924	925	926	927	928	929	930	931	932	933	934	935	936	937	938	939	940	941	942	943	944	945	946	947	948	949	950	951	952	953	954	955	956	957	958	959	960	961	962	963	964	965	966	967	968	969	970	971	972	973	974	975	976	977	978	979	980	981	982	983	984	985	986	987	988	989	990	991	992	993	994	995	996	997	998	999	1000
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Pulse Tracings — Beriberi Cases.

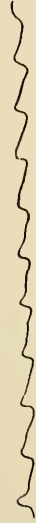
Virgílio de Silva.



Pulse Tracings — Beriberi Cases.



Virgilio de Silva



Maria



Pereira



Castilho



Alves, Sep^t 1.



Macedo



Frentas, Sep^t 1.



Manuel, Sep^t 1.



Pedro



Rocha

NOTES OF MICROSCOPIC EXAMINATION OF BLOOD.^a

BY J. H. WYTHE, M. D.,

Professor of Histology in the Pacific Medical College.

The Brazilian steam-corvette "Vital de Oliveira" arrived at San Francisco August 19, 1880, having eighteen cases of beri-beri among her crew. These were transferred to the United States marine hospital, and, at the request of Dr. E. Hebersmith, surgeon in charge, the blood was subjected to microscopic examination. The first specimens brought from the hospital were prepared by a drop of blood being placed on a thin glass cover, and this put upon a slide containing a drop of Pacinian preservative fluid, composed of corrosive sublimate 1 part, chloride of sodium 2 parts, glycerine 13 parts, and distilled water 113 parts. On a subsequent examination at the hospital the blood was examined directly in its own serum, without dilution. The objectives used were a first-class $\frac{1}{8}$ -inch, by Bausch & Lomb, and a superb $\frac{1}{8}$ -inch, with glycerine front, by Gemdlach. Higher powers were precluded by the lack of sufficiently thin covers. The magnifying powers employed ranged from 350 to 600 diameters. Each specimen showed more or less evidence of leucæmia and a disintegration of the corpuscles, both red and white. Sarcinæ were present in some cases, and in a few there were free, shining neuclei.

The numbers and names in the following list correspond with those marked on the specimens:

60. MELLÉ.—This slide had but few white corpuscles, but these were quite granular and irregular. The red corpuscles were generally shrunken, and smaller than natural. Many of them were granular, but others were swollen, mulberry-shaped, and evidently breaking up into granules. Many small molecules (microzymes or micrococci) evidently resulted from disintegration of the corpuscles. Some granular patches of pigment were also present.

65. PEDRO.—This specimen showed great disintegration. Many granules and rod-like forms, straight or curved, as in Fig. 1, resulted from breaking up of the red globules.

81. OLIVERS.—White corpuscles in act of breaking up; the red more normal, yet many granular, with a few rod-like forms. The liquor

^a This office takes pleasure in acknowledging the courtesy of Prof. Wythe and the Surgeon-General of the Navy in making these examinations.

sanguinis, cloudy. An excessive number of white corpuscles present, as well as a sarcina-like organism. (Fig. 2.)

58. MARIA.—Similar to the last, but a still larger proportion of white corpuscles. Several sarcinæ, somewhat broken up. Pigment granules and epithelial cells; the latter were probably accidental, from the skin.

71. DE POULA.—The white cells disintegrating at the edges; otherwise as 81, with rather more pigment.

70. ALVES.—Fewer white cells, yet these disintegrating and granular. Red disks more normal; some of them granular, but the field clearer.

68. DA SILVA.—Many disintegrating white cells. Red disks swollen, many granular. Sarcina, like 81, 58, and 71.

64. DA PAIXAS.—But few white cells; the red granular, small; some swollen and broken; some rod-like bodies.

66. DA ROCHA.—Both white and red cells granular, disintegrating. Rods and granules numerous. Many free, bright, or shining neuclei.

77. PEREIRA.—Too much disintegrated for examination, probably injured by moving the cover-glass.

80. FREITA.—Similar to last.

61. SILVA.—The red globules more normal in size, yet many broken. Much pigment. Empty cells present, appearing like fat cells, but pigmented.

79. PEREIRA.—White cells broken, the red granular; many of the latter broken. Rod-like bodies and sarcina present.

56. ELIAS.—Red globules small, granular; many broken. Shining granules or neuclei. Rod-like bodies, sarcinæ, epithelium, and much debris.

62. DE CASTILLO.—Much debris and pigment, with broken sarcinæ. In the direct examination of the patient's blood at the hospital, the evidence of leucæmia and disintegration coincided with the clinical condition of the cases. The following seems to have been the progress of the disease, so far as appears by this investigation: The white cells of the blood swell, become granular, and disintegrate; then the red ones shrink, subsequently swell, and break up into straight or curved rods and granules.

The presence of sarcinæ in so many cases can hardly be accidental. Leucæmia may be either a general coincidence or a cause, and the granules or neuclei, which were seen in a few of the cases, may have been an accompaniment or characteristic of some other disease affecting the blood.

J. H. WYTHE.

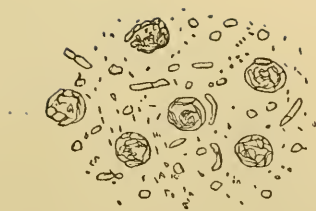


Fig.1

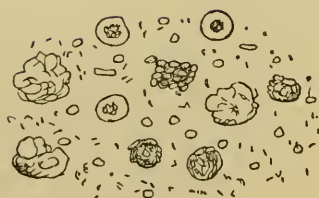


Fig.2

NEG. 77.



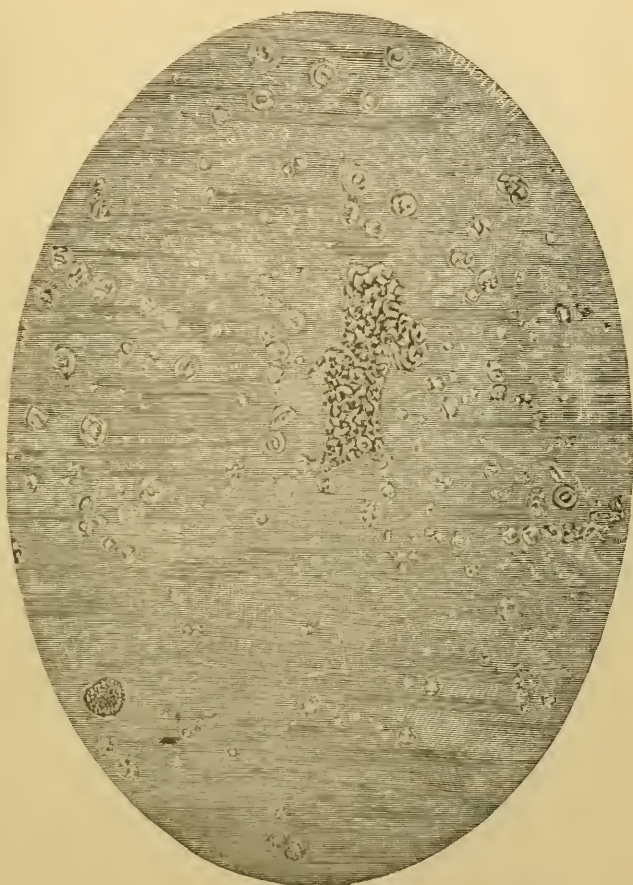
PEREIRA.—Sept. 17, 1880.

NEG. 78.



PEREIRA. $\times 500$.—Sept. 17, 1880.

NEG. 79.



PEREIRA. $\times 500$.—Sept. 17, 1880.

NEG. 81.



PEREIRA. $\times 300$.—Oct. 6, 1880.

NEG. 82.



ROCHA. $\times 300$.—Oct. 6, 1880.

NAVY DEPARTMENT,
Bureau of Medicine and Surgery, October 15, 1880.

SIR: Please find enclosed five photographs of beri-beri blood, prepared at the Surgeon-General's Office, U. S. Navy. The following explanatory memoranda are also forwarded:

Received, September 22, two specimens of blood from beri-beri patients, Pareira and Rocha, cases occurring on a Brazilian vessel lately arrived at San Francisco from the East Indies. Specimens furnished by the Supervising Surgeon-General of the Marine-Hospital Service, and preserved in Pacinian fluid, a solution of bichloride of mercury and salt, in glycerine and water.

Neg. 77, original No. 59, from Pereira, show sa bursting pollen-grain, one white corpuscle, and several red corpuscles, (a little out of focus.) $\times 500$.

Neg. 78, original No. 59, from Pereira, two white corpuscles, red corpuscles, and bacteria, (micrococcus.) A little carbolic acid had been added to this specimen without checking bacterial movement. $\times 500$.

Neg. 79, original No. 59, from Pereira; same blood. Saturated solution of carbolic acid, showing a coagulum, red corpuscles, one white corpuscle, and several micrococci. $\times 500$.

Neg. 81, from same specimen, $\times 300$. Coagula, red and white corpuscles, micrococci.

Neg. 82, original No. 62, from Rocha, $\times 300$, shows only red corpuscles and micrococci.

Pollen-grains and mucor indicate that the specimens had been for a time exposed to the outside air, hence no inference can be drawn from the presence of bacteria. The white corpuscles are very decidedly increased in number, and altered in appearance, presenting highly-refracting dots too large for nuclei, (fatty degeneration? Vacuoles?) Red corpuscles are altered in form, but a similar alteration appears in red corpuscles from healthy blood exposed to the action of the same preservative. Notwithstanding the presence of the Pacinian fluid, bacteria were numerous and active in both specimens. Pareira's blood only was found to contain the excess of white corpuscles referred to—that labelled "Rocha" showing nothing which differed sensibly from the appearances presented by normal blood kept for three days in contact with the Pacinian fluid.

Very respectfully,

PHILIP S. WALES,

Surgeon-General U. S. Navy.

JOHN B. HAMILTON, M. D.,

Supervising Surgeon-General M.-H. S.

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SKETCH MAP INDICATING THE GEOGRAPHICAL DISTRIBUTION OF BERIBERI.

B.

BERI-BERI IN CEYLON.

BY U. S. CONSUL MOREY, COLONIAL-SURGEON JAMES LOOS, AND SURGEON-MAJOR WHITE.

DEPARTMENT OF STATE,
Washington, April 18, 1881.

SIR: Adverting to the letter of this Department under date of the 10th of January last, relative to a disease which has recently appeared at San Francisco, California, known as beri-beri, I have the honor now to enclose for your information a copy of a despatch of the 5th of March last, from the consul at Ceylon, to whom the subject was referred for report.

I have the honor to be, sir, your obedient servant,
JAMES G. BLAINE.

To the Hon. WILLIAM WINDOM,
Secretary of the Treasury.

—
[Enclosure.]

No. 118. UNITED STATES CONSULATE AT CEYLON,
Colombo, March 5, 1881.

SIR: Referring to your despatch No. 45, dated July 10, 1881, and the enclosures, I have to state that on receipt of same I applied to the local government for such information in relation to the disease "beri-beri" as was obtainable from the public records or from the civil medical department, and I enclose herewith the reply, which was most readily and obligingly returned to my letter, together with the copies of Drs. Loos's and White's reports, therein referred to.

I could not presume to attempt writing anything myself supplementary to the valuable information contained in the reports of two such eminent medical men as Drs. Loos and White. Since, however, their conclusions and my own apparently do not disagree, I think I may state that, pending the receipt of a reply from the government, I made extensive inquiries in other directions, and, from the facts gathered,

concluded that "beri-beri," said to originate in Ceylon, did not have its source in this island, but was introduced from abroad; its appearance locally having almost always been amongst those colored foreign troops which were either brought from India, Borneo, and that vicinity, or returned from service in Labuan or China, where the disease appears extensively to prevail.^a

Cordiner's History of Ceylon, published in 1807, referring to the period embraced between the years 1799 and 1804, says: "'Beri-beri' first became known to the English surgeons in Ceylon by breaking out in a regiment of Madras native infantry, which had been sometime in the island. It raged with great fury amongst them, carrying off one-half of their number, and continued its ravages until the remainder were transported to the Coromandel coast, where change of air and a more generous diet contributed to their recovery," &c. This seems to be about the only instance of the disease appearing as a local malady in Ceylon, and was confined wholly to comparatively strangers; and even then, I suspect, was owing to some abnormal state of the atmosphere, else we should have heard of it again; for the same apparent conditions must have been often present previously and subsequently, especially when the troops made long expeditions through the interior, suffering meantime from various diseases, amongst which beri-beri is not mentioned.

Percival, writing about the same as Cordiner,^b says: "The Sepoys and other natives of the continent of India coming to Ceylon are not all able to endure the colds and damps occasioned by the violent and continuous rains; they are, therefore, subject to fluxes, dysenteries, and fevers; they are also afflicted by another extraordinary disease to which they apply as uncommon a remedy. This disease is known as "berry-berry." It is occasioned by low diet and bad water, and in part, perhaps, by the dampness of the climate in wet season. It swells the body and legs of the patient to an enormous size, and generally carries him off in twenty-four hours. The method employed for the cure is to rub the patient over with cow-dung, oil, cheunamb, lime-juice, and other preparations from herbs, and then bury him up to the neck in hot sand."

Here we seem to have a synopsis of the disease agreeing substantially, so far as symptoms are concerned, with what Dr. Wood, in his Practice of Medicine, vol. 2, says, viz: "'Beri-beri' is nothing more than dropsy connected with a depraved state of the blood," &c.

^a These people being all addicted to the use of either opium, bang, or rum, and in some cases to them all collectively.

^b Account of the Island of Ceylon, by Percival. Printed 1803.

It is noticeable that in the passage quoted from Percival he mentions only the natives of India as being affected with this disease, and I have read, though just now I cannot call to mind the authority, of a portion of the Indian Peninsular being plagued with it; and there can be no doubt that the outbreak in 1803, which both Percival and Cordiner probably allude to, must have been amongst men who are predisposed to the disease, as twenty years later, when the introduction of such troops had ceased, it was almost unknown, and, quoting from Dr. Loos, has not been named or distinguished in our hospitals for the last forty years or more.

I have consulted several native medical practitioners of note, who deny all knowledge of the disease or its name, and the several learned Pali and Singhalese scholars with whom I have conversed agree that the word "beri," meaning literally "cannot," when repeated and rendered "beri-beri," is such a corruption of the Singhalese language as could only be expected to emanate from a person so unfamiliar with that tongue as to be unable to express himself otherwise than obscurely; so that when attacked with this disease, the characteristic of which is extreme helplessness, and asked what is the matter, the patient might well reply "beri," "beri," "cannot," "cannot," or, as the words might be applied in their second sense, "helpless," "helpless," thus, to the best of his linguistic ability, describing his condition, without a thought of giving a name to the disease; just as in the idiom of the great Southwest, the fever patient would say that he was "powerful weak."

Several medical men, writing about the early part of this century, reported that "beri-beri" was common in the inland districts of Ceylon, and their statements were reproduced in medical works of a much later date—published, in fact, years after the disease was nearly lost sight of here. I think, however, that such opinions were based upon hearsay reports, which, to say the least, are not to be relied on in this part of the world. At the time of those reports—viz: prior to 1815—the interior of the island was so little known to Europeans that their doctors could not have had any knowledge, gained by personal experience, of the diseases peculiar to the inland inhabitants, and they could only hear of such matters through their native factotums, who, to say nothing of their proneness to exaggeration and indulgence in false and misleading statements, would, from ignorance, be likely to confound "beri-beri" with the other forms of paralysis common in the country, and say that it prevailed in the interior,^a whereas, in point of fact,

^a This view is strengthened by the fact that even doctors disagree about "beri-beri," some of them having confounded it with berhiera, which is quite another disease. (Lee Library of Medicine, by A. Tweedie, vol. 2, p. 293.)

there is no credible evidence that I can discover of the Singhalese people ever having been troubled with it.

Again, at the time this disease appeared in Ceylon, the English were unfamiliar with the Singhalese language, and habitually made great mistakes in pronouncing words, from misunderstanding their articulation. It is well known that words in general use, and especially common names, were so incorrectly rendered that only the coiners of them and the Anglicized natives knew to what they referred; and it is only within a few years that an attempt to remedy this defect has been made, with respect to towns and localities, by the Government's adopting the proper orthography.

For instance, ten years ago the name of the popular Colombo suburb "Kollu-pit-ia" was posted up "Colpetty;" "Malta-Kuliya" was rendered "Matty-cooley;" and "Kotahena," "Cottenchena." "Panadure," a conspicuous seaside town, was called "Pantura;" "Kalutura," "Caltura;" "Bentota," "Bentot," and so on, *ad infinitum*.

Now, the Singhalese for the disease known as "elephantiasis" is bar-o-wa, and the word is sometimes vulgarly used to denote distortion. It is possible, therefore, that amongst the first witnesses of beri-beri in Ceylon there was a sanguine native, who regarded it as elephantiasis, remarking that it was common in the country, and called bar-o-wa, which word, being imperfectly understood, would perhaps be rendered "berry-berry" which, as we know, was subsequently changed to beri-beri, and thus a wrong name and a false locale might have been given to the disease.

It would be interesting to learn what the Dutch, who preceded the English in the European occupation of Ceylon, knew about this rare disease; and thinking that the records of their rule, which are, I believe, well preserved in the Government archives, might contain some information on the subject, I asked to be put into possession of such particulars as could be obtained from them. As, however, no allusion is made to these records in His Honor the Colonial Secretary's letter, I presume they may not be regarded as a source of information on the subject, which fact of itself would go far towards proving that beri-beri is not a malady peculiar to or originating in Ceylon.

I am, sir, your obedient servant,

W. MOREY, *Consul*.

Hon. JOHN HAY,

Assistant Secretary of State, Washington, D. C.

Three enclosures, viz: Letter from Colonial Secretary and copies of Drs. Loos's and White's reports.

COLONIAL SECRETARY'S OFFICE,

Colombo, March 3, 1881.

SIR: With reference to your letter dated the 21st instant, I am directed to transmit to you the enclosed copies of reports by Dr. J. Loos, colonial surgeon Central and North Central Provinces, and Surgeon-Major L. A. White, R. N., on the disease known as beri-beri, and to state that the disease has for many years been unknown in Ceylon. Medical reports on the subject will be found in Cordiner's Ceylon, in the Colombo Library.

I am, sir, your obedient servant,

GEORGE W. O'BRIEN,

For Colonial Secretary.

W. DORSEY, Esq.

KAUDY, *September 18, 1880.*

SIR: In reply to your letter enclosing a "Report on the outbreak of beri-beri in the criminal prison at Singapore," by Dr. T. Irvine Rowell, principal civil medical officer of the Straits settlements, and desiring my views and experience with regard to this disease, I have the honor to inform you that the only undoubted cases of this disease which I ever saw occurred, I think, in 1860. I was then in medical charge of the Merchant-Seamen's Hospital, in Colombo, and some Laseers were landed from a vessel suffering from beri-beri.

The vessel had encountered rough weather, the men were exposed to damp and cold, and provisions and water had failed. Some cases had proved fatal on board, and three men were landed. One of the men died shortly after admission, and two slighter cases recovered. I kept careful records of these cases, but four or five years since, when I inquired for them they were not existing.

These were the only cases I have seen during a connection of more than thirty-seven years with the medical department of this island. I believe the disease will not be found in the returns of any of the civil hospitals or jails of Ceylon for this period. I am aware that in the returns of one of the military hospitals, that of the late Ceylon Rifles, the disease will be found; but the cases, I believe, occurred soon after the regiment returned from service in Labuan, where the disease existed.

I have not been without feeling an interest in the subject, as medical writers have indicated beri-beri as an endemic disease peculiar to Ceylon, and some of our medical text-books, Aiken's and Tanner's works on medicine, designate it as "the bad sickness of Ceylon." The

name beri-beri is itself conjectured to be derived from the Singhalese. It is stated that beri is the Singhalese for "weakness," and by iteration implies great weakness. But the derivation is actually uncertain, and although the Singhalese use the term beri to signify a want of inclination or power, the word is not used by sick persons.

The compound word beri-kania, signifying indisposition or ailment, is, however, in common use, and in more serious cases the word used is leda, or, disease.

The names of some able military surgeons who served in this island in the early part of this century are associated with descriptions of this disease. Dr. Johnson (*Influence of Tropical Climates on European Constitutions*) says: "The disease beri-beri is a disease of a peculiar nature, which has been extremely frequent and fatal amongst all the troops, both European and natives, in Ceylon;" and, after a description and history of the disease, gives an analysis of reports and papers by Drs. Christie, Rodgers, Ridley, and others who observed it in Ceylon. The accounts of the disease given in Dr. Mason Good's *Study of Medicine* and Copeland's *Dictionary of Practical Medicine* are drawn largely from these writers. The distinguished Army surgeon, Henry Marshall, in his "Notes on the Medical Topography of the Interior of Ceylon," (1821,) has a chapter on a disease described by Dr. Christie under the head "Beri-beri," but evidently, at the time he was in Ceylon, (1815 to 1820,) the disease existed in a less intense form. He says: "Beri-beri was very prevalent among all classes of troops at Irincomalee about the beginning of the present century. The Madras native infantry stationed at Colombo suffered much by it about the same time. Beri-beri was likewise very prevalent among the troops employed in the Kaudyau country, in the year 1803. Since that period the disease has been comparatively but little known in Ceylon." He adds that his opportunities of seeing cases of beri-beri have been very limited.

Another distinguished medical writer, Dr. John Davy, (*An Account of Interior of Ceylon, &c., 1821,*) in a chapter on the effects of climate, and diseases of Ceylon, says: "Beri-beri, a disease almost peculiar to Ceylon, has been supposed to be owing to ordinary causes, as a moist atmosphere, great vicissitudes of temperature, bad food, intemperance, &c. But I am more disposed to refer it, like remittent fever and the cholera morbus, to some unusual state or condition of the atmosphere, or, to be more correct, to confess ignorance of its exciting cause. I am forced into this conclusion because the disease is of occasional occurrence only, and does not uniformly present itself with the circumstances to which it has been attributed. During the period of the late rebellion,

the circumstances in question were of the most favorable kind for its production, and yet not a single case of it, that I am aware of, appeared; nor did I see a single instance of it during the whole time I was in Ceylon." Coming down to later years, beri-beri as a disease has disappeared from our sick returns, and for forty years or more it has not been named or distinguished in our hospitals. My attention to a disease supposed to be connected with beri-beri was awakened when I was in medical charge of Wellikade Jail, thirty years ago; burning of the feet was then a common complaint in the prison, and I was naturally led to obtain all possible information on the subject. I was able to procure Dr. Malcolmson's Essays on Beri-beri and on Burning of the Feet. The work was the prize which was offered in 1832 by the Madras Government, at the suggestion of medical board at that Presidency, for the best essays on beri-beri and on rheumatism and the neuralgic affection occasionally sequela of it, which is termed among natives "burning of the feet." A contribution of mine on "burning of the feet," from my experience in Wellikade Jail, was published in the medical portion of the Ceylon Miscellany in April, 1853.

Although "burning of the feet" is supposed to be allied to beri-beri, the latter affection has been unknown in the jails of Ceylon. "Burning of the feet" is far less common now in the jails, and it is comparatively a rare affection among the native patients who come under our care in the hospitals.

I have read accounts of the "new disease" (acute œdema) which has been so prevalent in Calcutta and elsewhere. So far as my knowledge and experience extend, no disease of a similar kind, or with the same train of symptoms, has existed in Ceylon for many years past.

The question whether the prisoners in the large jails at Wellikade and Kandy show signs of a scrobutic diathesis, supposed to be an element in the causation of beri-beri, has on one or two occasions engaged our attention. When cases of "burning of the feet" were so common in the jail, the existence of scurvy in a latent form suggested itself to my mind; and in my paper, in the Medical Miscellany, in referring to the causes of "burning of the feet," I remarked: "The causes of this disease are involved in obscurity. Dr. Malcolmson thinks it to arise from the use of an innutritious and unvarying diet. This opinion would appear to derive confirmation from its prevalence in the Wellikade jail, where, if any fault can be found in the diet, it is that the prisoners have little variety in the food which is allowed them." After stating that salt fish entered into their daily diet, fresh fish being given seldom, and meat never, and that sore mouth was then common, I pro-

ceeded to state: "I have not been enabled to trace marks of a scorbutic habit of body in any prisoner. It is by no means uncommon to meet with soft and spongy gums, which readily bleed, but scurvy, as denoted by its graver symptoms, and by its imparting a peculiar character to certain disorders, I have never met with. Bowel complaints were then very common. Five or six years ago, the late Dr. Koch pressed upon the attention of the principal civil medical officer and inspector general of hospitals his opinion that the prisoners had a scorbutic taint, and that this was the cause of the increased sickness and mortality in the Colombo jails. It was owing chiefly to the earnest representations of Dr. Koch that the necessity for a change in the dietary of the prisoners began to be considered, and, on Dr. Kynsey's recommendation, more of the nitrogenous element was introduced by the addition of two ounces of dhole to the daily meal. The full diet in the Ceylon prisons is, however, not more liberal than that in the jails of Singapore, as given in Dr. Rowell's report. The penal and ordinary diets of prisoners in Ceylon are far less nutritious. Any diminution in the diet of the prisoners in our jails would, I think, be a retrograde and unwise step, likely to lead to an increase of sickness. There has been a marked improvement in the health of the prisoners in our jails, chiefly owing, I think, to increased attention to sanitary arrangements. Bowel complaints and a new form of pneumonia were frequent diseases, but they are less common now. My own impression, therefore, is that beri-beri, as observed and described by medical men in Ceylon in the beginning of this century, is entirely unknown at the present day. No sickness, within my knowledge and experience, has ever appeared in the Ceylon jails similar in character to the outbreak in Singapore. It had also not prevailed among the population of the island generally. Dropsical affections are a frequent cause of admission into our hospitals, but they are chiefly in the chronic form, as the sequel of fever and dysentery; and when a rare case of acute dropsy presents itself it is found to be connected with renal disease. There is, however, one complaint prevalent among natives in all parts of the island which deserves to be better studied, and its causes carefully inquired into. I mean the disease which is known among the natives as paudua. It is possible that the causes from which some of the cases arise, operating in an intense degree, might produce beri-beri. The natives apply the term to all cases of anæmia. Many of the cases answer to the description given by recent writers to what is now termed progressive pernicious anæmia.

The disease commences insidiously; the patient does not lose flesh but becomes paler and weaker, and the anæmia is of a peculiarly in-

tractable character. There is intense prostration; the patient appears indolent and incapable of exertion, and is often sleepy. He suffers from palpitation and breathlessness on the least exertion. The disease often terminates in dropsy, and the patient has "the bloated leucophlegmatic face of a dropsical person." Cases of this disease are occasionally admitted to our hospitals and appear in the returns under the heads of "anæmia or general dropsy," as the one or the other predominates.

In some instances *pandua* is usually the disease which has been described as *pica*, in which a depraved appetite leads the patients to eat clay, chalk, &c. Native books on medicine, I am informed, give as the causes of *pandua*, intemperance, excessive sleeping, especially during the daytime; excessive sexual intercourse, and swallowing clay. It is defined to be a disease caused always by impurity of the blood, to which is due the external pale appearance of the body, and it is said to have several forms or varieties. Diarrhœa, fever, and acute dropsical swelling mark the more severe form of the disease, which runs a more rapid course; but the disease is generally chronic. Copeland's definition of *beri-beri* is "oppressed breathing, paralytic weakness, numbness and stiffness of the lower extremities, general œdema, with a swollen and bloated countenance." From all that I can gather of the descriptions of writers on *beri-beri*, after some preliminary ailment, the patient loses power over the extremities, becomes entirely dropsical, and suffers from effusion into the thoracic cavity, which gives rise to extreme anxiety and great difficulty of breathing. If the characteristic symptoms of *beri-beri* are merely anæmia and general dropsy, cases of the kind are not rarely met with at the present day, but it is not common for these symptoms to be followed by effusion into the chest and speedy death. The paralytic symptoms, also so much dwelt upon by the early writers on *beri-beri*, are not found in such cases. Malcolmson said of *beri-beri* that "there cannot be a doubt that the lower part of the spinal canal is the seat of disease;" but we do not now meet with cases in which paralysis is found supervening on acute disease, and when patients are found suffering from loss of power in the lower extremities, it is a distinctive disease, obviously due to some changes going on in the spinal cord.

I have, &c.,

JAMES LOOS, M. D.,

Colonial Surgeon.

P. D. ANTHONY, Esq.,

Acting Principal Civil Medical Officer and

Inspector-General of Hospitals, Colombo.

From Surgeon-Major L. A. White to Senior Medical Officer, Ceylon.

COLOMBO, *December 18, 1880.*

SIR: I have the honor to return, after perusal, the letter of the honorable the colonial secretary, No. 78, dated 22d of November, forwarding report of committee on the outbreak of beri-beri in the criminal prison, Singapore, and also the report on the same disease by the principal civil medical officer, Singapore.

From my experience of this disease in China and Labuan, I have come to almost the same conclusions as the principal civil medical officer, Singapore, has arrived at and stated in his able report, except upon two points upon which he has I think laid too much stress: 1st. That sleeping on the ground-floor (doubtless objectionable) is a necessary cause of the disease; and, 2d. That the diet is insufficient, and therefore a cause. I attribute the cause to malaria at night. I have never been over the Singapore prison, but I have several times seen it and noticed the swampy ground around it, as well as the noxious stench that a visitor cannot help remarking. This stench is, perhaps, not worse than in any other parts of the town. One's sense of smell after a three week's voyage on the open sea becomes more acute than that of the inhabitants of the place. I should say that the windows of the prison were kept open, and the night air, laden with malaria, was allowed to have free ingress.

I will now state my experience in China and Labuan. The Ceylon rifle regiment suffered from this disease, and I was medical officer in charge for some time in both places. In Hong-Kong none but the men married without leave (I think eight or ten) slept on the ground-floor; all the others, single and married, slept in the upper stories, the lower rooms being either used as store-rooms or unoccupied. In Labuan every building was raised at least four feet above the ground. I was also in medical charge at Labuan of the Coal Point coal mines, where an outbreak of this disease occurred amongst a newly-arrived batch of Chinese coolies, (I think 120,) and they were well and comfortably housed, as were the Ceylon rifle detachment, in houses built on pillars raised four feet above the ground, formed of Attap roofs, and boarded on cadjan sides, with boarded floors, well put on, clean, dry, and well ventilated. I could not complain of them, as I and my brother officers occupied similar buildings, and were quite content with them. I noticed that all who were attacked had been exposed to night air for sometime, as is proved by the staff-sergeants (all except the hospital

sergeant, who had constantly to expose himself at night) being free from the disease, as well as the women and children. The same occurred amongst the Chinese at Coal Point. They all attributed it to the night-shift. The men employed at day-work did not get sick with this disease. Although the buildings were, in a sanitary point of view, in themselves unobjectionable in every way, yet the immediate neighborhood was swampy, and the malaria at night affected those directly exposed to it. The European miners at Coal Point were never, or very seldom, expected to work more than one day in three; on one day they had ague, (real ague;) the next day, they were too debilitated to work; the third day they turned out. So also with many of the Malays and Chinese who had been acclimatized. I cannot say how many succumbed to the disease, or "bolted," but it was a very great number. I look upon beri-beri as a very intense form of malarial poisoning. The same poison produced in my own case remittent fever of the worst form. In another officer, exposed to the same poison at the same time at night, and under the same circumstances, very severe intermittent fever. I, fortunately, was able to get about after five days, although very weak, and having lost twenty-one pounds; whereas, my brother officer, when I heard from him four years afterwards, always got intermittent fever when he got a chill.

From the above, I cannot but come to the conclusion that the disease is caused by an intense dose (if I may so call it) of malaria at night, some persons being more able constitutionally to withstand it than others. Of course, those who are weakly and predisposed and insufficiently fed, will be the first to suffer from this severe and rapidly-fatal and intractable disease.

With regard to treatment.—My treatment of the cases under my charge was almost identical with Dr. Rowell's, except that I found the vapor-bath sometimes of great advantage, especially in the early stages; also dry cupping over the spine. There are now, after ten or twelve years, men of the late Ceylon Rifles regiment in this city living, whom I invalided from Labuan; almost all are paralyzed; some are bed-ridden for years; others go about holding a stick with both hands, and drawing their legs behind them; others who have partially recovered have a peculiar way of dragging their legs after them.

In conclusion, could not the Singapore Government drain this part of the town, (or even the whole town,) by what are called "trunk drains," (I forget the technical term for them,) in the Essex marshes, where, at high water, the land is considerably lower than the sea or

river, but they are on the valvular principle. I think there is a rise and fall of $1\frac{1}{2}$ to 2 feet of tide at Singapore. This would, I believe, be sufficient to keep out sea-water and allow of proper and sufficient drainage.

If the term "trunk-drains" is not understood, I shall be happy to explain what I mean by a diagram.

I am, &c.,

L. A. WHITE,
Surgeon-Major.

EXTRACT FROM DR. J. R. SOMERVILLE'S REPORT

ON THE

HEALTH OF FOOCHOW, (PAGODA ANCHORAGE,) IN THE "MEDICAL REPORTS FOR THE HALF YEAR ENDED SEPTEMBER 30, 1874, SERIES 8, SIXTH PART OF THE CHINESE CUSTOMS GAZETTE, No. XXIII, JULY-SEPTEMBER, 1874. (PAGE 62.)

I had this season, for the first time, an opportunity of seeing two cases of this curious and obscure disease. The patients were sailors in a coasting-vessel that arrived here from Singapore, and were natives of the Malayan Archipelago.

I got the following information concerning the disease as it occurs in the Cocos Islands, from the chief officer of the vessel, who is a native of these islands, and on whose accuracy I think I can depend :

Beri-beri first appeared in the Cocos about five years ago. There is a small island only 15 miles from the Cocos, called Kuling, in which the disease is unknown, and the latter island is used as a sanitarium; people coming from the Cocos generally get cured in Kuling. In the Cocos the natives live mostly on salt fish—often in a putrid state—and sweet potatoes. In Kuling they eat birds and rice. The dietary of the latter is, therefore, superior to that of the former island, and it is to the poor food in the Cocos that the disease is generally attributed. Beri-beri appeared in the Cocos just after the bush had been cut down, but whether these events exist to each other in the relation of cause and effect it is impossible to say. People subject to the disease have usually two attacks in the year. It commences generally with slight pain in the knee, at first without swelling; the lower legs then begin to enlarge and the swelling is most marked round the ankle. The swelling then proceeds to the abdomen, and sometimes to the arms. In advanced cases, there is always effusion, as evidenced by pitting on pressure. The pain, at first slight, increases until it becomes very severe, and stiffness, and often numbness, of the lower limbs supervene. When the swelling involves the abdomen there is great thirst experienced, and these cases always die. The mortality, speaking roughly, is about 20 per cent.

The chief features of the two cases that came under my observation were swelling, pain, and stiffness of the lower limbs; they also pitted

on pressure. The swelling was most marked at the knees and ankles. The abdomen was more tense than normal in one of the cases, but in neither could any fluctuation be detected. The pulse in one of the men was rather quick and weak; in the other regular and otherwise normal. The heart sounds and temperature were normal in both cases. Perhaps the most marked symptom was puffiness of the face, and especially of the lower eyelids. Both patients presented an anæmic appearance. Under generous diet and iron and quinine, both improved so much during the stay of the vessel in port that the men voluntarily resumed work.

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